DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1917, No. 5

REPORT OF AN INQUIRY INTO THE ADMINISTRATION AND SUPPORT OF THE COLORADO SCHOOL SYSTEM

MADE UNDER THE DIRECTION OF THE UNITED STATES COMMISSIONER OF EDUCATION

WASHINGTON
GOVERNMENT PRINTING OFFICE
1917

DEPARTMENT OF THE INTERIOR
U.S. BUREAU OF EDUCATION

BULLETIN, 1917, No. 5

REPORT OF AN INQUIRY INTO THE ADMINISTRATION AND SUPPORT OF THE COLORADO SCHOOL SYSTEM

MADE UNDER THE DIRECTION OF THE UNITED STATES COMMISSIONER OF EDUCATION

WASHINGTON
GOVERNMENT PRINTING OFFICE
1917

ADDITIONAL COPIES

OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
10 CENTS PER COPY

CONTENTS.

LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, January 2, 1917.

SIR: I am transmitting herewith for publication as a bulletin of the Bureau of Education a report of a study of the public-school system of the State of Colorado, which was made under my direction upon the request of the Colorado State survey committee. In accordance with my agreement with this committee, the study was confined to an investigation of the administration and support of public elementary and secondary schools and their immediate effects upon conditions determining the character of work done in these schools. The study was made by A. C. Monahan, specialist in rural school administration, and Katherine M. Cook, assistant in rural education, both of whom spent considerable time in Colorado in the months of September, October, and November, 1916.

Respectfully submitted.

P. P. CLAXTON,
Commissioner.

The SECRETARY OF THE INTERIOR.

REPORT OF AN INQUIRY INTO THE ADMINISTRATION AND SUPPORT OF THE COLORADO SCHOOL SYSTEM.

Chapter I.

THE STATE OF COLORADO AND ITS EDUCATIONAL SYSTEM.

The physical character of a State, the density and characteristics of its population, the occupations of its people, and its per capita wealth are all factors in determining its educational system and the kind of schools it should have and can maintain.

(1) GENERAL CONDITIONS.

Colorado, with an area of nearly 104,000 square miles and a population of 709,024, is one of the larger States in the Union, being seventh in area, though but thirty-second in population. The main range of the Rocky Mountains runs across it from north to southwest of the center. The central and west central portion comprises a large area of the mountainous mass of the Rockies. The location of many of the mining industries is within or bordering on this mountainous mass, which contains deposits of various metals and coal. The eastern two-fifths of the State is within the Great Plains section, and consists of a long slope descending from the mountains to the prairie section along the eastern border. This contains fertile farms along the river valleys, and large areas of it are utilized for grazing purposes. General farming is carried on along the river valleys where irrigation prevails. Within the central mountain mass there are numerous parks and small valleys, which produce vegetables, grain, and grass. On the western slope, especially in the southern and western portions, the irrigated valleys produce large quantities of fruit. The Platte and the Arkansas River Valleys, on the eastern slope, are the largest irrigated areas, and extend from the mountains to the eastern boundary of the State.

Population.—The population is small, but growing rapidly. The majority of the people in the State have migrated from other States in the Union; relatively few are of foreign birth. Native whites constitute 82 per cent of the total population; 16 per cent are foreign born, 1.4 per cent Negroes. Only about 35 per cent of the native white residents were born within the State. The increase in total population and the increase for rural and urban communities are shown in the table following.

TABLE 1.—*Increase in population.*

Year.	Total population.	Per cent of increase for Colorado.	Per cent of increase for United States as whole.	Per cent of population.	
				Urban.	Rural.
1880	194,327				
1890	413,247	112	25	45	55
1900	539,700	30	20	48	52
1910	799,024	48	21	51	49

The bulk of population and of territory is on the eastern slope of the mountains. The four cities of over 10,000 population—Denver, Pueblo, Colorado Springs, and Trinidad—are located here. Denver, with 256,000, constitutes over one-fourth of the total population of the State. The remainder of the urban population is contained in 20 cities and 3 incorporated towns, and constitutes 50.7 per cent of the total. Thirty-two counties are wholly rural, according to the United States Census classification. Excluding as urban the population of all incorporated cities and towns, 38 per cent of the population in 1910 was rural.

Racial composition of the population.—Of the 16 per cent of the population foreign born, about 35 per cent came from Canada, England, Ireland, Scotland, and Wales; about 18 per cent from Germany; 11.3 per cent from the Scandinavian countries, and 7 per cent from Russia. Among the remaining 29 per cent nearly all the countries of southern Europe are represented. The foreign-born population, as a rule, is concentrated in groups, creating special problems for the schools. In three counties the foreign-born population represents from 25 to 35 per cent of the total, in four others from 35 to 50 per cent; in all of these mining is the leading industry. Aside from these counties the problem of educating foreigners is confined largely to the cities.

School attendance and illiteracy.—The percentage of illiteracy among the native white population is 1.5, among the foreign-born population 10.6. The percentage of illiteracy of the population between 10 and 20 years is 1.6, which is much lower than that for the United States as a whole. A large portion of the adult population has come from other States. The low per cent of illiteracy among the native white population is due to the schools in these States as well as to those in Colorado; the low percentage of illiteracy among the population between 10 and 20 years shows that the schools within the State are effective in reaching the majority of the population. In 1910, of all the children from 6 to 9 years old, 78.9 per cent attended school; of those from 10 to 14 years old, 93.4 per cent; of those from 15 to 17 years old, 62 per cent; and of those from 18 to 20 years old, 20 per cent. Of the urban population between 6 and 14

years of age, 89 per cent attended school; between 15 and 20 years of age, 44 per cent. Of the rural population between 6 and 14 years of age, 85 per cent attended school; between 15 and 20 years, 45 per cent.

Farming and other occupations.—In 1910, one-fifth of the entire land area of the State was in farms; of the counties of the State, those in the northeast portion had the highest percentage of their total acreage in farms. Nearly 6,000,000 acres were under irrigation in 1910 or included in projects which were then under way. Relatively few of the farms are operated by tenants—about 18 per cent, or less than one-half the percentage for the United States as a whole. Figures compiled by the Colorado State Tax Commission from 1912 to 1915 show that the relative valuation of farm lands and improvements and live stock increased from 21.5 per cent of the total taxable property valuation in 1912 to 31 per cent in 1915, while the value of city lands and improvements decreased from 40 per cent of the total in 1912 to 33 per cent in 1915.

In the Federal Census of 1910 Colorado was listed as preeminently a mining State, but even at that time agriculture and manufacturing were becoming increasingly important industries. Approximately 30,000 are now engaged in mining industries. The manufacturing is dependent largely upon the mineral resources and upon the products of farms. The manufactures dependent upon the mining industries, railroads, and carshops are concentrated largely in cities; those dependent upon farm crops, as sugar factories and those connected with the canning industry, are located in the small towns and villages in the agricultural communities. Sugar production in Colorado is greater than in any other State of the Union. The canning industry is important in the agricultural districts in the northern counties, and the natural grazing country so abundant in the eastern portion of the State has caused the development of butter and cheese making, meat packing, and condensed milk factories. As a whole, the manufacturing industries in 1909 paid in salaries $25,600,000, employed 34,000 persons, and added in wealth to the State $49,500,000.

That Colorado has the means to support good schools is shown by the following:

TABLE 2.—*Number of men 21 years of age or over for each 100 children 5 to 18 years of age (1913).*

Utah	85	Arizona	129
New Mexico	88	Oregon	148
North Dakota	93	Washington	151
Nebraska	95	Montana	165
South Dakota	90	California	169
Kansas	98	Wyoming	179
Idaho	113	Nevada	180
COLORADO	125		

TABLE 3.—*Number of adult men and women for each 100 children 5 to 18 years of age (1913).*

Utah	160	COLORADO	231
New Mexico	162	Oregon	253
North Dakota	166	Washington	255
South Dakota	175	Montana	261
Nebraska	182	Wyoming	269
Kansas	190	Nevada	269
Idaho	190	California	301
Arizona	213		

TABLE 4.—*Value of property for each child of school age (5 to 18), 1913.*

New Mexico	$4,700	Nebraska	10,700
Idaho	5,900	North Dakota	10,900
Utah	6,300	COLORADO	11,100
South Dakota	7,500	Oregon	11,100
Arizona	8,600	Montana	12,300
Kansas	9,400	California	15,500
Wyoming	10,200	Nevada	28,400
Washington	10,400	United States	7,337

The following table shows how much Colorado, in comparison with other Western States, spent on education per $100 of *assessed* valuation and also of true valuation from the estimates of the United States Bureau of the Census. The figures are for 1912, the latest available:

TABLE 5.—*Expenditure for public schools and relation to taxable property, 1912.*

States.	Expenditure for public schools, excluding debt paid.	Valuation of all taxable property, in millions of dollars.		Expenditure (cents) for public schools for each $100 of valuation.	
		Assessed valuation, 1912.	Estimated true valuation, 1912.[1]	Assessed valuation.	True valuation.
United States	$482,886,793	69,453	175,425	69.5	27.5
Montana	3,354,934	347	1,113	96.8	30.1
Wyoming	997,022	181	345	55.2	28.9
COLORADO	6,527,569	422	2,286	154.6	28.5
New Mexico	1,112,840	72	502	153.6	22.1
Arizona	1,321,631	140	487	94.2	27.1
Utah	3,636,686	200	735	181.1	49.5
Nevada	625,562	101	441	61.9	14.2
Idaho	2,959,124	168	591	176.7	50.1
Washington	10,526,931	1,005	3,055	104.7	34.4
Oregon	6,095,111	905	1,843	67.3	33.0
California	23,978,621	2,921	8,023	82.1	29.9

[1] As reported by the United States Census.

(2) THE EXISTING EDUCATIONAL SYSTEM.

General administration.—The constitution of Colorado provides that the general supervision of the public schools shall be vested in a State board of education, composed of the superintendent of public instruction, the secretary of state, and the attorney general. In practice the only functions of the board are to render decisions in appeals by teachers or school officials from the decisions of the county superintendents and to approve formally recommendations for State certification made by the State board of examiners. This board of examiners, of which the State superintendent is chairman ex officio, consists of eight members, appointed by the State board of education, of whom four are to be appointed on the recommendation of the presidents of the four institutions of higher education. All must be engaged in educational work at the time of appointment. The duties of the board are to examine credentials and recommend to the board of education the issuance of State certificates.

The constitution provides a State superintendent of public instruction, elected at large at each regular biennial election. His duties are defined by law and are very general. "He shall have general supervision over the county superintendents and the public schools of the State"; collect and publish school data; apportion the school fund; interpret the school law; and prepare questions for the use of county superintendents in examining teachers. The office force of the State superintendent consists of a deputy, an assistant librarian, one clerk, and two stenographers. The State superintendent is ex officio State librarian, a member of the board of trustees of the State Teachers College and State Normal School, and president of the State board of education and of the board of examiners.

In each county there is a county superintendent elected at large at the regular biennial election. No educational qualifications are required. The salaries range from $100 to $2,800 per year. Legally the superintendent has general supervision over all the schools of the county, visits schools, decides boundary disputes, conducts examinations for teaching certificates, examines the accounts of school districts, apportions school funds within the county, approves the school census lists of the various districts, and reports annually to the State superintendent of public instruction. In practice he has little real authority in guiding educational interests of the county, as he has no voice in the selection of teachers, in the adoption of textbooks or the course of study, or in determining the kind of buildings to be erected.

The actual unit of school administration in the State is the school district. There are 31 first-class districts (school population 1,000

or over); 59 second-class districts (school population 350 to 1,000); 1,758 third-class districts (school population less than 350).

The third-class districts include all of the rural and small village schools. Each second and third class district has a board of three elected directors, one of whom is elected each year. These boards employ teachers, determine the length of school term, adopt the course of study, select textbooks, have charge of the school property; in fact, they have sufficient control to make the school as good or as poor as they may wish.

In first-class districts the board is composed of five members elected for a term of six years. The elections are held biennially, and the law governing them is of an entirely different nature from that governing elections in second and third class districts. First-class districts as a rule do not recognize the certificates issued by the county or the State, but conduct special examinations for applicants to teach in the district. They also employ special superintendents and supervisors and conduct meetings and reading circles independently of county institutes or State and county reading circles. This plan of district organization helps to emphasize the differentiation between the county and the city teaching force when the different kinds of districts exist in the same county.

School support.—There are three sources of school income in Colorado—the State, the county, and the district. The State school fund is derived from rentals on school lands and from interest on the permanent school fund, derived from the sale of school lands.

The county general school fund is raised by a levy placed by the county commissioners on all the taxable property of the county. It varies from 1 to 25 per cent of the total school expenditure. This and the State fund are apportioned to the school districts on the basis of the number of children in the district 6 to 21 years of age. The local district tax is the main source of school support. The school boards in first and second class districts and the qualified electors in third-class districts fix the amount to be raised. For the State as a whole 7 per cent of the total school expenditure comes from the State, 22 per cent from the county, and 71 per cent from local taxation.

High schools.—There are three kinds of high schools—the district high school, established and maintained by the school district, confined by law to first and second class districts; union high schools, maintained by districts which unite for high-school purposes, supported either by a special tax on the union district territory or through pro rata of funds from the districts combining for this purpose; and county high schools maintained by the county and located at the county seat.

Higher education.—The State supports five institutions for higher education—the university, with a total enrollment for the year 1915–16 of 1,402 students; the college of agriculture and mechanic arts, 602; the school of mines, 174; the State teachers' college, 686; the State normal school, 127. All of these except the normal school at Gunnison are located in the north central portion of the State, within 60 miles of each other and of Denver. With the exception of the last two named, which are controlled by one board, each institution has a distinct and separate board of control. There are in the State a number of private institutions of collegiate grade, among which the University of Denver and Colorado College have the largest enrollment.

Teacher training.—There are two State institutions whose primary function is the training of teachers—the State Teachers College at Greeley, in the northeastern part of the State, and the State Normal School at Gunnison, in the southwestern part of the State. Besides these, the university maintains a college of education and the agricultural college a department of rural and industrial education, in both of which teachers are trained for elementary and high schools, but chiefly for high schools. Several private institutions have teacher-training departments also.

Special schools.—The State supports an industrial school for boys, an industrial school for girls, a school for deaf and blind, a State home and training school for mental defectives, and a State home for dependent children, all governed by boards of from three to six persons appointed by the governor with the consent of the Senate. These institutions are all independent of the State department of education.

Chapter II.

SUMMARY OF RECOMMENDATIONS.

(1) RECOMMENDATIONS RELATING TO GENERAL ADMINISTRATION.

(1) The present ex officio State board of education should be replaced by a board consisting of seven members appointed by the governor with the approval of the senate, or elected by the people on a nonpartisan ballot. They should be men and women of scholarship and business ability, not necessarily engaged in education, and should be selected from various parts of the State. The term of office should be eight years, not more than two terms expiring each biennium.

(2) The State superintendent of public instruction should be selected and appointed by the State board of education. The county superintendents of schools should be appointed by county boards of education. Both State and county superintendents should be selected because peculiarly fitted by experience, training, and education for the duties of these offices, and should be assured of tenure during satisfactory service.

(3) The county should be the unit of administration for all schools outside of cities and towns which employ special superintendents devoting their entire time to administration and supervision. The management of county schools should be vested in a county board of education consisting of five or seven members, elected at large from different sections of the county. The term of office should be at least six years with not more than two terms expiring any biennium.

(4)The State board of education for the State, and the county boards of education for the counties, should confine their activities largely to inspection and legislation, their educational policies being carried out by their executive officers, the State and county superintendents respectively. The position of these boards in relation to the State and county schools, respectively, should be similar to that of the board of regents to the State university.

(5) The State board and the county boards should have their functions, powers, and duties specifically stated in the laws of the State. They should include those stated on pages 17 and 25.

(6) The State board of education should have control of the certification of teachers under regulations fixed by law. The entire system of certification should be revised. The State board of examiners should be abolished. A division of certification should be established in the State department of education. This division should be also a teachers' employment bureau rendering service to teachers and to school officials.

(7) The State board of education should assume the duties now conferred upon the boards of control of the five State educational institutions for special classes: State Home for Dependent and Neglected Children, Industrial School for Boys, Industrial School for Girls, Home and School for Mentally Defective, School for Deaf and Blind.

(8) The State superintendent of public instruction should have an adequate office force and several field assistants. The assistants, as well as the State superintendent, should have high professional qualifications and educational experience and should act as advisory agents to school officers throughout the State.

(9) The local districts should retain their organization, the trustees acting as custodians of the school property and as advisory agents to the county boards.

(10) All high schools except those in the independent city districts should be under the control and management of the county board of education. The county high-school boards should be abolished. Union high-school districts should be made elementary districts, the high schools bearing the same relation to the county system as the elementary schools.

(2) RECOMMENDATIONS CONCERNING SCHOOL SUPPORT.

(1) The State should provide by special appropriation an amount large enough to make its annual apportionment fund approximately one-third of the total expenditure for maintenance of schools. This arrangement should continue until the income from the permament fund and from school-land rentals is sufficient to supply one-third of the total expenditure.

(2) The State apportionment fund should be distributed to the different counties in a manner that provides a fixed amount for every teacher employed, the remainder apportioned on the basis of aggregate attendance. Distribution on the census basis has no relation to school needs or to the effort made by counties and districts to provide educational facilities.

(3) The State should give financial aid to encourage the establishment of vocational education. Funds for this purpose should be derived from direct appropriation and not be taken from the appor-

tionment fund. Schools receiving such aid or other form of special State aid should be under the general supervision of the State board of education.

(4) The county as a unit should contribute an amount large enough, with the State apportionment, to maintain all schools in the county at least the minimum term and at the minimum salary required by law. The county board of education should fix school standards and qualifications for teachers engaged in schools receiving State and county funds, in order that all children may have approximately equal educational opportunities.

(5) The county school tax should be levied on all taxable property in the county and should be divided between the cities and the county district on the basis of the number of teachers employed and the aggregate attendance. The county board should expend the money assigned to the schools under its jurisdiction according to their needs and in order to serve best the educational interests of all children concerned.

(6) The local districts should have the power and should be encouraged to levy local taxes for special purposes in advance of the minimum requirements of the county board of education, and should raise money by taxes or bonds for all permanent improvements.

(3) RECOMMENDATIONS OF GENERAL APPLICATION.

(1) The educational qualifications of teachers should be increased each succeeding year, until by 1922 the State should require as a prerequisite: For elementary teachers, general education equivalent to four years in a standard high school, and in addition the equivalent of two years' professional training in a standard normal school or college; for high-school teachers, four years of education in a standard high school, and in addition four years in an approved college or university including professional courses in education.

(2) The State should enlarge and extend its facilities for training teachers, especially for service in rural schools. Additional normal schools should be established and located in places accessible to prospective teachers from all parts of the State. There seems to be immediate need for two more such schools. No additional board of control is necessary.

(3) The normal institutes should be abolished and six-week summer schools substituted in at least five places in the State, selected with a view to general accessibility. This arrangement would serve as an immediate and temporary expedient for the extension of facilities for training teachers and would undoubtedly greatly increase the total number in the State receiving the benefit of summer school instruction.

(4) Living conditions of rural teachers should be improved and salaries raised, so that trained and capable teachers for rural schools may be secured and retained.

(5) Assistant supervisors should be furnished for county schools, to work under the general direction of the county superintendents, to insure better teaching and reasonable uniformity in regard to textbooks, courses of study, and methods of organization and management.

(6) Schools should be consolidated wherever practicable and transportation of children provided when necessary, in order to secure better educational facilities than the organization of one-teacher schools permits.

(7) A definite policy which would result in more convenient and sanitary buildings should be adopted. The employment of a State architect is suggested as a possible method of securing this end.

(8) More regular attendance should be secured. As a means toward this end the following are suggested: An adapted course of study, better teaching, and the enforcement of the compulsory attendance law in rural districts by the county boards of education.

(9) The law providing for free textbooks should be mandatory rather than optional, and lists of approved books should be issued by the State department of education to assist school officers to make better and more appropriate selection. These lists should include only such publishers as have complied with the State law and should give the net prices. (See p. 68.)

Chapter III.

GENERAL ADMINISTRATION.

Colorado's greatest need in public education is a type of centralized organization, now wholly lacking, which would furnish the leadership and guidance necessary to insure State-wide progress. To establish this organization there will be needed:

(1) A constitutional amendment to abolish the present ex efficio State board of education. In its place there should be a board of persons especially fitted for the work, selected and appointed by the governor with the approval of the State senate, or elected as are the members of the board of regents of the State university.

(2) A constitutional amendment to convert the offices of the State superintendent of public instruction and of the county superintendents of schools from political elective offices to appointive ones, to be filled by persons especially equipped for educational work.

(3) Legislation to make more effective the State department of education by conferring on the State board of education and the State superintendent of public instruction enlarged and clearly defined functions and power to perform them.

(4) Legislation to adopt the county as the unit of support and of management of schools outside of the cities, and to create county boards of education clothed with authority to provide at least a reasonable minimum amount of education to all children in the county.

(1) THE STATE BOARD.

The recommendation regarding this board is made because the need of a board which may be the actual head of the school system is realized. The State superintendent of public instruction should not be a member of it, but should be its executive officer, selected and appointed by it. A board constituted as the present one is can not be in fact an effective head of an educational system. It has legal authority enough, for it is charged by the constitution "with the general supervision of the public schools of the State." However, no board has ever attempted to assume any supervision, general or otherwise, or authority of any kind over the schools. An examination of the minutes of the meetings for the past four years shows that the board has met 28 times, but has transacted no business except (1) the formal approval of teachers' certificates recommended by the State board of examiners, and (2) consideration of appeals

from decisions of the county superintendents, usually relating to boundary disputes or to the refusal of teaching certificates.[1]

Criticism of the board for failure to assume the functions conferred by the constitution is not altogether deserved. The members of the board are elected to other State offices for which they are supposed to be fitted, the duties of which require their full time. Other States have tried the same plan, and none has found it successful except as an expedient in pioneer conditions, when the number of schools was small, when little was attempted in education beyond the three R's, and when the regular duties of State officers required comparatively little time. Its failure is indicated by the action of the number of States which have now substituted a more effective board.

A State board of education is recommended, composed of seven members who shall be men and women of affairs, scholarship, and business ability, but not necessarily engaged in education. They should be from various parts of the State, selected and appointed by the governor, with the approval of the senate, or elected by popular vote. The term of office should be at least eight years, with not more than two terms expiring each biennium. Such a method of appointment would insure a continuity of service and freedom from political interference. The members should serve without pay, but should receive their actual traveling and other necessary expenses and probably also a reasonable per diem for time actually given.

The State board of education should have power and it should be its duty:

(1) To assume general charge of the educational interests of the State; to determine educational policies and scope of the public school system, particularly those concerned with organization and administration.

(2) To appoint and to fix the salary of the State superintendent of public instruction, and to appoint assistants on his recommendation and to fix their salaries.

(3) To assist the State superintendent of public instruction in the duties conferred upon him by the constitution or laws.

(4) To apportion the State school funds to the counties and to enforce State laws and regulations by withholding from any county a portion of the school funds if schools within the county are not maintained in accordance with the State laws.

(5) To have complete control of the certification of the teaching force, including the exercise of the functions now conferred upon the State board of examiners; to fix grades of certificates and qualifications required, and to recommend to the State superintendent the issuance of certificates.

(6) To maintain as a division of the State department of education a State teachers' employment bureau which would serve to assist local authorities in finding qualified teachers.

[1] During 1915–16 the board met eight times, confirmed 225 certificates, and heard two appeals for certificates and six concerning boundaries.

(7) To approve the State course of study prepared by the State department of education.

(8) To approve the charters of all higher education institutions that may be established in the State and to determine standards for conferring collegiate degrees under general regulations fixed by law.

(9) To have general supervision of vocational or other special schools or departments of schools receiving special State aid or Federal or other financial aid given through the State (higher institutions excepted), whether established by the State or established by local authorities and under immediate local control.

(10) To control and manage:

(*a*) State Home for Dependent and Neglected Children;
(*b*) State Industrial School for Boys;
(*c*) State Industrial School for Girls;
(*d*) State Home and Training School for Mental Defectives;
(*e*) State School for the Deaf and Blind;

and to exercise general supervision over similar institutions receiving special State aid established by local communities and under immediate local control.

The State superintendent should be the executive agent of the State board of education. The board should not attempt to handle the details of the work of the State school organization. It should confine its attention to the larger features of administrative problems. These are well stated in the report of the survey of Denver:

These larger features relate, first and most important, to the selection, from time to time, of the executive officer or officers upon whom the board is to depend for advice, and for the execution of its policies; to the determination, after listening to the recommendations and the advice of its executive officers, of the educational and business policies for the expansion of the school system; the inspection of the results obtained by their executive officers in the management of the business; presentation to the people, through the medium of an annual report, of the needs of the school system; and the prevention of unwise legislation relating to the schools by either the city or the legislature.

Proper school organization and management call for a clear separation of the work of school control into legislative, executive, and inspectional functions. All sound theory, and the results of both business and educational administrative experience, call for a clear separation of legislative and executive functions. It is the prime business of the board of school control to hear reports, to listen to the advice of its executive officers, and then to legislate; it is the prime business of the executive officers to execute the legislation enacted, and to report the results to the board; and it is the function of the board in turn to judge the results of its policies and the work of its executive officers by inspecting the results obtained.

(2) THE STATE SUPERINTENDENT.

The powers and duties of the State superintendent of public instruction, other than the execution of the orders of the State board of education, should be definitely fixed by the legislature. A sufficient number of field agents should be employed to enable the department to keep in close touch with schools in all parts of the State. These

should serve as inspectors of secondary schools, vocational schools, and special schools receiving State aid, and as advisers and assistants to the State superintendent in the performance of his duties.

The State superintendent of public instruction should have power and it should be his duty—

(1) To supervise all educational work supported in whole or in part by the State (higher educational institutions excepted) and report thereon to the State board of education.

(2) To serve ex officio on the boards of control of all educational institutions of the State not under the management and control of the State board of education.

(3) To visit different parts of the State in the interest of education and to collect and diffuse information regarding school affairs.

(4) To prepare, publish, and distribute matter for the promotion of public-school work.

(5) To collect reports from county and city superintendents and from private institutions, and to prepare and publish biennially a complete report on the status of education.

(6) To prepare blank forms for use by county superintendents for keeping records and in collecting data; for the use of county treasurers in keeping account of school receipts and expenditures; and all other forms necessary for the use of school officers.

(7) To compile and publish the school laws of the State.

(8) To interpret school laws and to aid school officers and teachers in all matters relative to the conduct of the schools.

(9) To prepare, subject to the approval of the State board of education, the courses of study for the public schools and to approve the courses of study in all special schools receiving State aid.

(10) To enforce State laws and regulations by withholding, pending the action of the State board, a portion of the State fund from counties disregarding them.

(11) To hold annual conventions of county and city superintendents.

(12) To prepare, or have prepared, questions for examination for teachers' certificates; to issue certificates on recommendation of the State board of education.

(13) To prepare or have prepared plans and specifications for school buildings and have the same published.

(14) To perform such other duties as may be assigned by law or as the State board may direct.

The State superintendent of public instruction should be selected and appointed by the State board of education in a manner similar to the method of selection and appointment of city superintendents by city boards of education and college presidents by college boards of trustees. Selection should be based upon particular fitness for the position to be filled, regardless of political affiliations or of residence within or without the State. The first appointment should be for a specified term, sufficiently long to insure the most efficient service; reappointment might be for an indefinite term, the State board having power to remove the incumbent from office for in-

efficiency or malfeasance. A State officer so appointed, able to count on continuous tenure during good service, would become the actual head of the State system, first in responsibility and opportunity, and would be in a position to develop the educational work of the State to the highest point of efficiency.

The chief school officers of 15 States no longer are elective political officers, and determined efforts are being made in many other States to change from the elective to the appointive method, so that persons of the best ability may be chosen. A study of the length of terms served by the State superintendents in the United States shows that the terms of elected superintendents were almost universally short when compared with the length of terms served by superintendents appointed in various ways. Colorado, for instance, since 1885—32 years, or 16 terms—has had 11 superintendents.

It is noteworthy also that in the States in which the superintendents are elected low salaries are paid; in the other States they are much higher and compare very favorably with those paid to presidents of State universities and to superintendents of schools in cities employing professional officers. If Colorado adopts the appointive method it should provide an adequate salary, at least as great as that paid to the presidents of the State institutions of higher education. In the following States among those with appointive superintendents, chief school officers are selected because of their professional training, educational experience, and fitness for the position. Their salaries are as follows: New York, $10,000; New Jersey, $10,000; Massachusetts, $6,500; Vermont, $5,000; Pennsylvania, $5,000; Rhode Island, $5,000; Minnesota, $4,500; Ohio, $4,000; Maine, $4,000; New Hampshire, $4,000. Among the elected superintendents one receives $7,500, three $5,000, and three $4,000. Eighteen States pay the same salary as Colorado ($3,000 a year) and eight States pay less.

The present Colorado law providing for the election of the State superintendent specifies no qualifications of an educational nature, nor of any sort except that he must be at least 30 years of age, a citizen of the United States, and must have lived in Colorado at least two years. The result is that successful experience in educational work has not been and is not regarded as an essential. Probably in no State are State superintendents of public instruction nominated and elected with less regard for professional training and experience in educational work.

The principal function of the State department of education should be leadership. To assure this the State superintendent must command the respect of school officers and must be selected with the same care as the president of a State university. The State through the department should also assume enough control and supervision

over education to assure that the State funds apportioned for education are so used that the best possible results may be obtained. The State department of education should not burden itself with the details of county and local management. These should be left to county and district authorities. County management and a certain amount of local district management is desirable also, because it promotes county local interest and initiative. The State superintendent should have a sufficient number of assistants to keep in close touch with the whole system and to render aid when needed; also authority to require reports, collect data, and generally to enforce the laws in regard to education.

At present Colorado has a smaller force in the department of education than any other State with so large a school population. The legal powers conferred on the State superintendent are very general and give little real authority. The law states: "He shall have general supervision over the county superintendents and the public schools." In practice no State superintendent has attempted to exercise actual supervision, either over the superintendents or the schools. In fact, school authorities do not feel that the State superintendent has any jurisdiction over them; even county superintendents quite generally seem to feel that the authority of the State superintendent over them is limited to requiring annual reports. Even these annual reports are obtained with difficulty, although the law states that they must be submitted on or before the first Tuesday of each September with data for the preceding school year. In practice few superintendents submit reports at the time designated. The majority of the reports are not submitted until the State superintendent has made several requests for them. Even then many of them are very inaccurate. The reports submitted by the 63 county superintendents for the school year 1914–15 were examined and all summaries, averages, financial balances, etc., were correct on only seven reports. Even the school census figures in the reports of 26 superintendents did not agree with figures submitted by the same superintendents earlier in the year in certified reports used as a basis for the apportionment of State funds.

(3) CERTIFICATION OF TEACHERS.

The State board of examiners seems to have no functions that could not be performed better by the State superintendent of public instruction and the reorganized State board of education, and should, therefore, be abolished. Under the present system the board examines the credentials of candidates for State certificates and makes recommendations to the State board of education for the issuance of certificates. The kinds of State certificates are as follows:

(1) State temporary certificates, valid for five years, issued to graduates of approved colleges who have taken at least one-sixth of their college work in educational subjects.

(2) State diplomas, to candidates with the foregoing qualifications who have had two years of teaching experience.

(3) Certificates giving the right to instruct in normal institutes.

(4) Honorary State diplomas, to persons who have rendered "eminent service in the educational work of the State" for a period of not less than six years.

(5) Honorary State diplomas, to teachers who possess the "requisite scholarship and culture and whose eminent professional ability" has been established by not less than two years' successful teaching in the public schools of the State.

Each board makes its own interpretation of what constitutes "eminent service" and "requisite scholarship and eminent professional ability." There is no standard.

The number of State diplomas issued in the four biennial periods since the law for State certificates was passed is as follows:

TABLE 6.—*State certificates.*

Periods.	Honorary.	State diploma.	State temporary certificate.
1909–10	4	197	170
1911–12	48	70	233
1913–14	35	207	479
1915–16	114	82	226

County superintendents issue three grades of certificates, all on examinations prepared by the State department, but given, corrected, and rated by the county superintendents. The grade of certificate depends upon the rating given in the examination. Diplomas from the two-year course in the State normal school and from the two and four year courses in the teachers' college are legal life certificates. A certified copy of such diplomas must be filed in the office of the county superintendent of schools in the counties where graduates are teaching.

The entire system of awarding teachers' certificates should be revised. Best results would come, probably, if all certificates were issued by the State department of education, under regulations of the State board of education. The kinds of certificates to be issued and the requirements for each should be fixed by the State board under general State legislation. No State legislature should attempt to fix standards in a matter of this sort further than to require a definite amount of education, both general and professional, as a

prerequisite for teaching in the State. It is recommended that the legislature give the reorganized board of education full control of certification, with the proviso that after a certain date, say July 1, 1918, all teachers entering the profession for the first time be required to have as a minimum an educational equivalent of four years in a standard high school and six weeks of professional work in a summer school of recognized standing; after July 1, 1920, the equivalent of four years in a standard high school and one year in a standard normal school; after July 1, 1922, the equivalent of four years in a standard high school and two years in a normal school or in a college department of education. Similar legislation in other States has been very successful in raising the educational qualifications of the teaching force. That it is needed in Colorado is evident from the data relative to the teachers given later. The diplomas of the State teachers' college and the State normal school should be recognized as teaching certificates, valid for two years if recorded with the State board, renewable by the board on evidence of successful teaching experience and of having completed a professional reading course fixed by the board. Certain certificates now issued, such as State certificates "for eminent service" and county certificates of the third grade, serve no desirable purpose and should be abolished.

As time goes on certificates should be issued almost wholly on credentials of education or of education and teaching experience, as the examination method as usually conducted is unreliable. If some certificates must continue to be granted through the examination method, the whole matter of preparing questions, correcting papers, and issuing certificates should be taken care of in the State department. When county superintendents correct the papers, as at present, there is no uniformity; the grading is largely a matter of personal opinion. The unfairness of the present method is shown by the following grades given by seven county superintendents on the same papers. The papers were exact copies of those written by a candidate in the August, 1916, examinations.

TABLE 7.—*Grades given by seven county superintendents to four examination papers written by one candidate for a first-grade teaching certificate.*

	United States history.	Geography.	Reading.	Arithmetic.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
Superintendent A	66	77	59	70
B	50	57	57	69
C	81	88	65	88
D	89	69	85	66
E	44	63	85	66
F	72	78	80	65
G	91	84	70	73
Variation	44–91	57–88	57–85	65–88

Below is a table showing the seven superintendents arranged under each of the four headings in the order of their ratings from lowest to highest. For instance, Supt. E gave the lowest rating in United States history; Supt. G gave the highest rating in the same subject. It will be noted that no superintendent gave uniformly high, low, or medium ratings. This becomes particularly evident if lines be drawn connecting the four A's, the four D's, and the four G's.

TABLE 8.—*Superintendents arranged from lowest to highest according to ratings given examination.*

	United States history.	Geography.	Reading.	Arithmetic.
Lowest	E	B	B	F
Second	B	E	A	D
Third	A	D	C	E
Fourth	F	A	G	B
Fifth	C	F	F	A
Sixth	D	G	D	G
Highest	G	C	E	C

To handle the work of issuing certificates a division of certification should be established in the State department. In connection with this a teachers' employment bureau should be established. Such bureaus are conducted successfully in several States, notably Massachusetts and Minnesota. The records required for certification and those for employment agencies are practically identical. With this agency teachers from Colorado, or other States desiring positions in the State, might register. The agency should also have on file lists of persons available for institutes, teachers' conventions, directors' associations, parent-teacher associations, and similar organizations. The fees now charged for certificates would make such a division self-supporting.

(4) VOCATIONAL EDUCATION.

Special State aid is recommended to encourage vocational education in trades, industries, agriculture, and housekeeping in schools below college grade. Schools receiving such assistance would appeal to a large number of the boys and girls between 14 and 18 years of age now out of school because they lack interest in the present curriculum, also to those who desire to prepare more specifically for industrial life.[1] These schools should be supervised by the State department in cooperation with local authorities. State funds might properly be used also to assist in employing industrial supervisors as

[1] See Report on Vocational Education in Denver School Survey, 1916.

assistants to county superintendents. Experience in other States shows that the movement for vocational training progresses most rapidly and effectively when aided and supervised by the State and that little progress is made without it except in some larger cities.

(5) LOCAL MANAGEMENT.

The establishment of the county unit for local administration is recommended. There should be a county board of education with duties similar to those of the present city school boards, whose executive officer should be a county superintendent of schools, appointed by the board. The appointment of county superintendents requires a constitutional amendment, and even if favorable action is taken by the legislature of 1917 and the amendment carried at the next general election following, the plan can not become effective until January, 1921. But the county unit plan for administration and taxation can become effective for the school year of 1917–18 if the legislature in 1917 passes the law for its adoption.

Colorado is now organized for rural school administration on what is known as the district basis. This is a system which developed in colonial times in the East and was adopted by practically all of the States in the early days of settlement. As the population increased and additional functions were added to the schools, the defects of the system became apparent. It has now been abandoned in all States but three east of the Mississippi River and in six States west of the river. Movements are on foot in every State having the district system to substitute a larger unit. The county is now the unit of organization in 17 States, and the principal unit of taxation for the support of schools in six others. This system has been successful wherever tried and no State trying it has ever returned to the township or district system.

(6) THE COUNTY BOARD OF EDUCATION.

The county board should be composed of five or seven members elected at large from the entire county, for terms of six or eight years, with not more than one-third of the terms expiring any biennium. Not more than two members should be residents of independent city districts (i. e., of districts employing superintendents giving their whole time to administration and supervision). This board should have general administrative authority over the schools of the county, with powers and duties similar to those now exercised by boards in first-class districts. It should, within the provisions of law on these subjects, determine the amount of money necessary

to support the schools, fix minimum salaries and qualifications for teachers, and minimum term for the schools. The levy recommended by the board should be made by the county commissioners. The money raised by the levy, together with the State fund, should be expended by the county board according to the needs of the individual schools after dividing (on the basis of the number of teachers employed and the aggregate attendance) between the independent cities and the rest of the county as a single district (see section on school revenue). District organizations should be retained, but the county board should have power to change the district lines and to divide or consolidate districts in their discretion. Local trustees should be elected in each district, as at present, to act as custodians of the school buildings, to make recommendations to the county board relative to the school, and to act as agents of the county board as may be required. The local districts should furnish school buildings and for this purpose be allowed to tax themselves or to issue bonds as at present. They should also be allowed to levy taxes for the purpose of employing special teachers, in addition to those employed by the county, or take other progressive steps for the improvement of the schools in the district. This is practically the system suggested by the committee on rural schools of the Colorado State Teachers' Association submitted to the legislature in 1915 for action, under the title "House bill No. 243; a bill for an act in relation to public education," known as the "County unit bill."

The county boards of education should replace the present county high school boards and assume the entire management of the county high schools, establishing branches so that high-school education may be within reach of all prospective high-school pupils in the county. The present union high-school districts should be made elementary school districts wherever feasible. The union high schools will then become district high schools. If such consolidation is impracticable, the present union high schools should become branches of regular county high schools.

(7) THE COUNTY SUPERINTENDENT.

All that has been said in regard to making the State superintendent an appointive officer applies equally to the county superintendent. The superiority of the appointive plan is quite generally recognized and it is being widely adopted throughout the United States. In 23 States the county or other rural superintendents are now appointed officers; in 25 they are still elected political officers. A recent study made by the Bureau of Education relative to the educa-

tion, training, experience, and terms of county superintendents shows that the term of service in States in which they are appointed is much longer than in the States in which they are elected, and that men and women with more general education and teaching experience are selected in appointive States for county superintendents than in those States in which they are elected by popular vote. For instance, among the appointed county superintendents at the time the study was made, 36 per cent were serving their first term, 35 per cent had served two or more full terms; among the elected superintendents 52 per cent were serving their first term and only 19 per cent had served two or more full terms. This summary does not include the rural superintendents of New England, many of whom have served many years, nor the district superintendents of New York or the county superintendents of Ohio, who, on account of the changes in the State school laws, are all serving their first terms. As to education, approximately 83 per cent of the rural superintendents in New England have had four years of standard college education and an additional 12 per cent have had at least two years of college work. In New York State 32 per cent have had complete college education, and an additional 50 per cent from one to three years of college. Among the county superintendents appointed in various ways 1.7 per cent had elementary education only, while among those elected by the people approximately 8 per cent had elementary education only. Among the appointed superintendents 44 per cent have had full standard college education, while among the elected superintendents less than 15 per cent are college graduates.

Training and experience.—An attempt was made in connection with this study of Colorado to determine the education, training, and experience of the county superintendents of the State. It happens that the work was done at an inopportune time—during the two months preceding the biennial election. With primaries held in September and election early in November, practically the entire time of a majority of county superintendents was taken up with political matters. One superintendent wrote after election that he "had been too busy to reply before." The 40 who replied include those generally recognized as the best-qualified superintendents of the State. Experience in collecting personal data of this sort in many States from superintendents and teachers shows that the well trained and well qualified are always the most willing to give the information asked for. A table giving the education, training, etc., of those reporting is given in the section on Supervision in this report.

Salaries.—If superintendents are appointed by the county boards of education, salaries may be paid sufficient to attract and hold the men and women desired. Under the present plan salaries are fixed by law. Some are adequate, but the majority are entirely inadequate. They are given below. The counties are divided into seven classes by the State legislature. The classification is arbitrary, and not properly related to the area, wealth, number of schools, or population of the counties. It is made solely for the purpose of fixing the salaries of county superintendents.

TABLE 9.—*Salaries of county superintendents.*

Classes.	Counties.	Salary.
First class	4	$2,800
Second class	5	2,800
Third class	11	1,500
Fourth class	25	1,100
Fifth class	14	900
Sixth class	2	500
Seventh class	2	100

Tenure.—Tenure of office is an important factor in the efficiency of the county superintendency. Two years, the present term, is too short a time in which to carry out educational reforms, especially when the superintendent's function is advisory only and these reforms must come about through his ability to persuade a large number of directors—three for each district—to adopt them. Good work is not always rewarded at popular elections. Even the feature of accepting persons not specifically trained in supervision would be overcome in some degree if the incumbents of the county superintendencies remained long enough so that experience in the position would compensate in some measure for lack of training. In practice, however, this does not happen. In 1914, of the 63 superintendents in Colorado 23 were reelected. Of the present superintendents (November, 1916):

Serving their first terms	40
Serving their second terms	18
Serving their third terms	4
Serving his fourth term	1

The following table shows the tenure of office of county superintendents during the past 20 years. A summary of this table shows that since 1890 Colorado has had 478 county superintendents.

Served one term each	284
Served two terms each	139
Served three terms each	40
Served four terms each	11
Served five terms each	3
Served seven terms	1

TABLE 10.—*Length of service, in years, of county superintendents in Colorado from Jan. 1, 1890, to Dec. 31, 1916.*

Counties.	Number of years.	Number of different superintendents.	Average terms, in years.	Counties.	Number of years.	Number of different superintendents.	Average terms, in years.
Adams	13	4	3.25	La Plata	27	6	4.5
Alamosa	2	1	2.0	Larimer	27	5	5.4
Arapahoe	27	9	3.0	Las Animas	27	8	3.37
Archuleta	27	10	2.7	Lincoln	27	6	4.5
Baca	27	11	2.45	Logan	27	8	3.37
Bent	27	9	3.0	Mesa	27	7	3.85
Boulder	23	6	3.83	Mineral	23	7	3.28
Chaffee	27	8	[1] 3.37	Moffat	6	2	3.0
Cheyenne	27	9	3.0	Montezuma	27	10	2.7
Clear Creek	27	7	3.85	Montrose	27	7	[1] 3.85
Conejos	27	7	[2] 3.85	Morgan	27	9	3.0
Costilla	27	10	[2] 2.7	Otero	27	7	[1] 3.85
Crowley	6	2	3.0	Ouray	27	9	3.0
Custer	27	6	[3] 4.5	Park	27	9	3.0
Delta	27	9	3.0	Phillips	27	7	3.85
Denver	13	5	2.6	Pitkin	27	5	[1] 5.4
Dolores	27	11	2.45	Prowers	27	10	2.7
Douglas	27	5	[4] 5.4	Pueblo	27	8	3.37
Eagle	27	9	3.0	Rio Blanco	27	10	2.7
Elbert	27	6	4.5	Rio Grande	27	8	3.37
El Paso	27	10	2.7	Routt	27	10	2.7
Fremont	27	10	2.7	Saguache	27	8	3.37
Garfield	27	7	3.85	San Juan	27	5	[4] 5.4
Gilpin	27	9	3.0	San Miguel	27	8	[5] 3.37
Grand	27	10	2.7	Sedgwick	27	7	[2] 3.85
Gunnison	27	8	3.4	Summit	27	10	2.7
Hinsdale	27	10	2.7	Teller	17	5	3.4
Huerfano	27	10	2.7	Washington	27	9	3.0
Jackson	10	3	3.1	Weld	27	6	4.5
Jefferson	27	7	3.85	Yuma	27	9	3.0
Kiowa	27	10	2.7				
Kit Carson	27	10	2.7	State		478	3.29
Lake	27	7	3.85				

[1] One served 8 years.
[2] One served 9 years.
[3] One served 15 years.
[4] One served 11 years.
[5] One served 10 years.

(8) SUMMARY.

Colorado's present system lacks the necessary centralization to insure State-wide progress. The present ex officio board of education performs no function that could not be done as well by the State superintendent alone. There is need for a different sort of board, one created by law as the actual head of the school system and composed of members appointed or elected on account of their peculiar fitness for the functions to be performed. This board should determine educational policies to be carried out by its executive officer.

The present State superintendency is a political office; in filling it little regard is paid to professional training and experience in educational work. The powers and duties now conferred upon the office are not definite or broad enough to make it the important factor in the State school system that it should be. Few assistants are employed; an inadequate salary is provided. The chief State school officer should be selected for personal fitness by the State board of education with the same degree of care and in the same manner as

the presidents of the State institutions of higher education are selected.

The State board of examiners performs no functions that could not be better performed by the State department of education. The entire system of certification of teachers is inadequate to the present needs.

Opportunities for vocational education are greatly needed in the State, particularly for the trades and industries, argriculture, and housekeeping. Experience in other States seems to show that much progress may be expected only when special State aid is provided.

The present system of local mangement (as well as of support) is very unsatisfactory. Colorado in adopting a larger unit for management will be doing what more than half the States have already found it necessary to do. The county system would remedy the principal defects of the present system; it would provide also a means of obtaining for the country schools a professional head in the person of a county superintendent no longer a political officer but a professional school officer, selected with the same care as city superintendents are selected in the best cities.

Chapter IV.

REVENUE AND SUPPORT.

The present method of apportioning the State fund to the counties, and the State and county funds to the districts, in proportion to the number of children 6 to 21 years of age, is fundamentally wrong, since it does not depend in any way on what the districts are actually doing in education. It does not equalize the burden of support among them, nor does it encourage educational efforts to the end that better teachers may be had, all children enrolled and required to attend regularly, and longer terms of school maintained. It should be abandoned and a more equitable basis of apportionment adopted. It must be remembered that the cost of maintaining schools does not depend upon the number of children of school age, but upon the school attendance, the length of term, and the number and kind of teachers employed. To change the method of apportionment will require a constitutional amendment.

As all schools in the State are for the benefit of the State as a whole and not merely for the local communities, it should be realized more definitely that education is the function of the State, and that the State should assume a larger share of the burden of its support. To do this it will be necessary to add materially to the present State school fund either by appropriation or special tax levy. The annual fund available should be from 30 to 40 per cent of the total needed to maintain all public schools in the State. It should be apportioned to the counties in two amounts:

(1) To each county an amount equal to approximately $200 for every regular teacher employed for the full minimum term in public elementary and secondary schools;

(2) Whatever remains should be apportioned to the counties on the basis of aggregate attendance.

The State department of education should be supported by biennial appropriations as other State departments are supported. The appropriation should be a lump sum, the State board determining the number of positions to be maintained and the salaries. State aid for special purposes, such as to encourage vocational education, should be paid from special funds and not taken from the general school fund.

The counties should be required to levy a tax which, with the money received from the State, will be sufficient to maintain schools throughout the counties a minimum of nine months; this fund should be apportioned between independent city districts and the rest of the county as a single district on the same basis as the State fund is

apportioned. Local districts should be authorized to raise through special levy such additional funds as their desires and financial condition warrant.

(1) SOURCES OF SUPPORT.

The schools of Colorado derive their support from three sources—the State school fund, the county general school tax, and the special school district tax. In addition, there are rentals from forest reserves and certain fines, fees, and forfeitures. The amount received from rentals of forest reserves is given later. The amount from fines, fees, and forfeitures is relatively small and is not considered in this report.

Revenue from State.—The State school fund consists of (1) interest on the permanent fund and (2) rentals and leases of State school lands. The permanent fund is derived from the sale of the school lands, and in 1916 amounted to $3,677,913.70. Practically two-thirds of this ($2,397,110.38) is invested in State bonds drawing 3 per cent and 4 per cent interest, and in State warrants drawing 4 per cent interest. The remainder is deposited in banks, and draws from 2 to 2½ per cent interest. Other States are receiving higher rates of interest.

The total interest on the permanent fund for the school year was:

1914–15	$103,778.72
1915–16	134,708.75

The State school lands amount to approximately 3,244,000 acres. Their rentals and leases yielded for the school year:

1914–15	$300,828.70
1915–16	369,002.58
Total school fund—	
1909–10	308,620.90
1914–15	404,707.44
1915–16	503,711.33

The school fund has increased in the past five years 119 per cent; in the same time, however, the school population has increased 103 per cent, and the average daily attendance 110 per cent. In other words, while the school fund is increasing rapidly, its rate of increase is but little greater than the rate of increase in the average daily attendance in the public schools. The increase since 1896 is indicated by the following, which shows the amount apportioned to the counties for each child 6 to 21 years of age (school age):

1896–97	$0.611
1899–1900	.776
1905–6	1.141
1909–10	1.450
1911–12	1.689
1913–14	2.100
1915–16	1.955

The State school fund is apportioned semiannually by the State superintendent (in July and January) to the 63 counties, on the basis, as already stated, of the total number of children 6 to 21 years of age. It is reapportioned almost immediately to the school districts in the counties by the county superintendents on the same basis. The number of children for the apportionment is determined by a school census made annually in February by the secretary of the school board in each district.

The State treasurer received for the credit of the State school fund for the year ending June 30, 1916, $503,711.33. The amount apportioned during the school year ending on the same date, however, included the receipts for the last half of the preceding school year (January to June, inclusive, 1915) apportioned in July, 1915, and for the first half of the school year 1915–16 (July to December, 1915) apportioned in January, 1916. The total apportioned was $446,907.14, or $1.955 per school child. The census totals 228,597 children 6 to 21 years of age.

The State of Colorado received from the national forest reserve fund, from leases of forest reserve lands, and the sale of timber, for the school year 1915–16, $63,995. This was distributed to 42 counties in which the reserves are situated (see Table 11) and is used by the counties for schools and roads, the amount for each purpose, above a minimum of 5 per cent, being determined by the county commissioners.

TABLE 11.—*National forest reserve fund for schools and roads, 1915–16.*

Counties.	Amount.	Counties.	Amount.
Archuleta	$2,827.80	La Plata	$1,640.25
Boulder	186.94	Larimer	711.65
Chaffee	1,323.23	Las Animas	66.76
Clear Creek	761.33	Mesa	2,615.66
Conejos	1,824.39	Mineral	3,569.95
Costilla	76.99	Moffat	385.03
Custer	391.75	Montezuma	1,577.67
Delta	1,314.98	Montrose	1,438.17
Dolores	2,085.39	Ouray	599.42
Douglas	767.71	Park	2,995.59
Eagle	3,483.00	Pitkin	2,677.11
El Paso	700.51	Pueblo	86.39
Fremont	161.40	Rio Blanco	1,901.70
Garfield	2,981.20	Rio Grande	1,579.73
Gilpin	184.74	Routt	3,173.49
Grand	3,201.49	Saguache	2,915.25
Gunnison	4,131.09	San Juan	986.08
Hinsdale	2,870.40	San Miguel	1,175.94
Huerfano	287.25	Summit	880.00
Jackson	2,198.54	Teller	380.40
Jefferson	394.85		
Lake	483.84	Total	63,995.06

Revenue from county.—The county commissioners from each county are required by law to levy a general school tax. Until 1913 the law required that this levy be at least 2 mills on the dollar (and not over 5 mills) of the assessed valuation of all taxable property.

This rate has been decreased by indirect action. The legislature in 1913 passed an act requiring all taxable property to be assessed at its true valuation instead of at from one-quarter to one-half its valuation, the usual assessments. The law says:

> All statutory rates making provision for fixing the limit of indebtedness are hereby decreased in the same proportion as the assessed valuation of the taxing districts to which they apply are increased.

Further provision prohibited the total amount raised by taxation for any purpose to be more than 15 per cent greater in 1913 than in 1912. The greatly increased assessed valuation made necessary, therefore, a decreased rate. The general county school levies in 1914–15 varied from 0.4 to 3.75 mills, with an average of 0.92 mills. (See Table 22.)

The total amount raised by county taxation for school purposes for the school year 1914–15 was $1,570,493. Of this amount $807,439 was raised and retained as a county tax in Denver, leaving as the amount raised for the general county school tax in the other 62 counties $763,054. This is $7,713 less than the general county school taxes in the 62 counties in 1911–12, before the law here referred to went into effect.

The county funds are distributed to the school districts on the same basis as the State funds; in fact, the State funds, the county funds, and the portion of the national forest reserve funds used for schools are put together in one fund before apportionment. Districts refer to the part each receives as the "General fund by apportionment."

Revenue from districts.—Special taxes are levied in the various school districts to raise the amount needed to operate the schools over and above the amount received from the State and county. The local district tax is determined in first and second class districts by the school boards; in third-class districts by vote of the qualified electors.

This special school-district tax is the principal source of support for the schools. In 1914–15 it amounted to 64 per cent of the total raised in both second and third class districts. In the first-class districts, omitting Denver, where county and special district taxes are on identical properties, the special local school-district taxes amounted to 80 per cent of the total. The average for the State, Denver included, was 71 per cent.

Bonds.—For the purpose of erecting and furnishing school buildings, purchasing grounds, or funding floating debts, bonds may be issued by any school district, upon majority vote of the qualified electors of the district, up to a maximum amount equal to 5 per cent of the assessed valuation in first and second class districts and to 3½ per cent in third-class districts.

(2) EQUALIZATION OF SCHOOL SUPPORT.

Colorado's per capita expenditure for public education and the proportion of total cost of school maintenance which the State bears as compared with other States in the western group may be judged by the following tables:

TABLE 12.—*Per capita expenditures for schools based on number of children of school age.*

States.	1912-13	1913-14
COLORADO	$31.58	$31.02
Wyoming	31.37	33.13
Idaho	36.11	33.71
Oregon	36.39	34.63
Utah	34.26	34.68
Washington	42.76	40.57
Nevada	40.24	40.72
Montana	48.99	41.48
California	49.28	49.58

TABLE 13.—*Percentage of total school expenditure borne by the State, 1914–15.*

	Per cent.		Per cent.
Oregon	6	Washington	24
COLORADO	7	Wyoming	25
Idaho	11	California	28
New Mexico	15	Nevada	31
Arizona	21	Montana	43
Utah	24		

In the various counties of Colorado the percentages of the school funds raised from the three sources, State, county, and local, is as follows:

TABLE 14.—*School funds from various sources (1914–15).*

County.	State.	County.	Local.	State.	County.	Local.
				Per cent.	*Per cent.*	*Per cent.*
Adams	$6,090	$13,611	$66,615	7	16	77
Alamosa	2,802	6,750	34,609	6	15	79
Arapahoe	5,741	10,717	66,727	7	13	80
Archuleta	2,829	2,182	12,477	16	12	72
Baca	2,066	4,678	10,526	12	27	61
Bent	3,801	9,195	37,098	8	18	74
Boulder	18,109	23,541	235,675	7	8	85
Chaffee	4,565	5,220	55,909	7	8	85
Cheyenne	1,728	7,815	36,964	4	17	79
Clear Creek	2,396	5,312	35,341	6	12	82
Conejos	6,518	6,416	27,117	16	16	68
Costilla	3,572	5,471	19,478	13	19	68
Crowley	3,606	3,349	31,426	9	9	82
Custer	1,178	1,303	8,808	10	12	78
Delta	9,297	6,110	103,360	8	5	87
Denver	104,513	807,439	738,807	6	49	45
Dolores	363	907	3,734	7	18	75
Douglas	1,817	11,856	15,503	6	41	53
Eagle	1,882	3,920	26,154	6	12	82
Elbert	3,952	12,464	35,108	8	24	68
El Paso	24,405	121,824	312,655	5	27	68
Fremont	10,443	14,073	134,433	7	9	84
Garfield	6,000	10,514	81,493	6	11	83
Gilpin	1,577	11,100	27,503	4	27	69
Grand	1,048	5,107	14,045	5	25	70
Gunnison	3,190	8,779	36,097	7	18	75
Hinsdale	265	910	3,640	5	19	76
Huerfano	9,522	8,620	49,364	14	13	73
Jackson	567	3,180	4,017	7	41	52
Jefferson	8,197	30,372	84,832	6	25	69
Kiowa	2,402	3,549	30,588	6	10	84
Kit Carson	4,488	12,267	52,747	6	18	76

TABLE 14.—*School funds from various sources (1914–15)*—Continued.

County.	State.	County.	Local.	State.	County.	Local.
				Per cent.	*Per cent.*	*Per cent.*
Lake	$4,990	$30,104	$49,418	6	36	58
La Plata	7,482	15,285	71,135	8	16	76
Larimer	16,368	37,957	142,700	8	19	73
Las Animas	15,437	18,892	96,775	12	14	72
Lincoln	4,082	8,385	35,235	8	18	74
Logan	7,440	15,660	88,626	7	14	79
Mesa	12,755	19,619	170,953	6	10	84
Mineral	590	3,451	8,368	5	28	67
Moffat	1,178	2,910	12,388	7	18	75
Montezuma	3,322	12,735	37,395	6	24	70
Montrose	7,484	7,307	75,817	8	8	84
Morgan	8,039	24,002	79,161	7	21	72
Otero	11,493	17,295	135,704	7	11	82
Ouray	1,743	5,080	18,635	7	20	73
Park	832	7,201	15,393	3	31	66
Phillips	2,245	6,466	17,328	9	25	66
Pitkin	2,586	10,365	40,248	5	19	76
Prowers	6,749	10,477	96,086	6	9	85
Pueblo	31,746	55,933	383,982	6	11	83
Rio Blanco	1,810	4,365	15,289	9	20	71
Rio Grande	3,854	9,432	43,752	7	7	76
Routt	4,442	10,681	50,907	6	14	80
Saguache	3,303	8,126	26,582	9	21	70
San Juan	882	4,749	16,620	4	21	75
San Miguel	2,533	9,527	27,441	6	24	70
Sedgwick	2,050	3,514	24,422	7	12	81
Summit	804	2,911	16,385	4	14	82
Teller	7,319	17,843	174,084	4	9	87
Washington	6,644	5,562	56,728	10	8	82
Weld	27,597	42,050	338,701	7	10	83
Yuma	6,684	8,947	63,924	9	11	80
State	.....	.....	.....	7	22	17

State funds are supposed to equalize the burden of education among the various counties, some of which have a low valuation and a large school population, and even with high taxes have difficulty in raising enough money to support good schools. Table 15 shows valuation per school child and the amount received from the State on attendance basis and on teacher basis for all the different counties. The need of equalization is shown by the fact that while Baca has $1,822 of taxable property for every census child, Park has $22,674. Pitkin, with $5,615, is the median. The amount now received from the State bears no relation to this per capita valuation nor to the number of schools nor the school attendance. If it is divided by the number of children in average daily attendance it varies from $2.76 per child in Las Animas County to $5.58 in Costilla County. If it is divided by the number of teachers employed it varies from $27 per teacher in Park to $119 in Conejos County—relatively as great a variation as that in property valuation. The figures for these statements are given in Tables 14 and 15. They show that the distribution of the State funds on the census basis does not equalize the burden between the counties due to the unequal valuation per school child, nor does it contribute to the counties in proportion to what they are doing for the education of the children of the State. (Table 15.) The cost of maintaining schools does not depend upon the number of children living in the county or district, but upon the number who attend school, the number of days school is

maintained, and the number of teachers employed. A distribution on the census basis takes none of these essentials into consideration. This is particularly true where the census includes all children from 6 to 21 years of age, or 5 years beyond the compulsory age limit, and 2 years beyond the normal age of graduation from high school.

TABLE 15.—*Comparison of valuation with amount received from the State, 1914–15.*

County.	Valuation per school child (6–21).	Amount received from State for every child in average daily attendance.	Amount received from State for each teacher employed.
1. Baca	$1,822	.....	$49
2. Conejos	2,334	$4.47	121
3. Huerfano	2,743	4.53	99
4. Yuma	3,123	3.91	57
5. Costilla	3,216	5.58	119
6. Delta	3,435	3.17	75
7. Archuleta	3,505	5.31	109
8. Washington	3,516	6.46	40
9. Las Animas	3,770	2.76	80
10. Montezuma	4,025	3.02	58
11. Fremont	4,049	3.35	72
12. Montrose	4,105	3.13	70
13. La Plata	4,290	4.11	80
14. Pueblo	4,344	4.16	103
15. Morgan	4,415	3.75	68
16. Larimer	4,450	3.51	81
17. Mesa	4,614	3.15	68
18. Boulder	4,632	3.43	82
19. Custer	4,645	4.24	49
20. Kit Carson	4,783	3.55	40
21. Clear Creek	4,848	3.78	68
22. Gilpin	4,926	3.67	53
23. Teller	4,972	3.58	89
24. Alamosa	5,057	3.66	65
25. Otero	5,100	3.29	77
26. Lincoln	5,135	3.51	43
27. Crowley	5,179	4.55	88
28. Logan	5,184	3.51	52
29. Jefferson	5,272	3.74	72
30. Chaffee	5,370	3.48	69
31. Elbert	5,519	3.76	43
32. Pitkin	5,615	3.38	72
33. Rio Blanco	5,647	4.99	70
34. Rio Grande	5,711	3.22	63
35. Lake	5,760	3.92	89
36. Weld	5,773	3.83	87
37. Prowers	5,840	3.36	66
38. Bent	5,972	4.68	74
39. Sedgwick	6,001	3.93	50
40. El Paso	6,003	3.65	78
41. Arapahoe	6,041	3.26	71
42. Phillips	6,048	3.86	51
43. Routt	6,048	4.41	59
44. Mineral	6,140	3.04	59
45. Kiowa	6,204	3.51	47
46. Ouray	6,803	3.34	58
47. Garfield	6,853	3.80	71
48. Hinsdale	7,222	.....	33
49. Eagle	7,291	3.80	43
50. Saguache	7,380	3.87	57
51. Moffat	7,410	4.22	45
52. Adams	7,653	3.92	62
53. San Miguel	7,900	3.75	55
54. Denver	8,132	3.57	109
55. Dolores	8,841	4.17	52
56. Cheyenne	9,542	3.07	30
57. Gunnison	9,587	3.51	57
58. Grand	10,276	4.21	52
59. Douglas	11,028	3.56	37
60. San Juan	11,147	3.48	63
61. Jackson	14,581	4.69	57
62. Summit	15,200	3.26	47
63. Park	22,674	3.61	27

TABLE 16.—*State fund received by each county for each child in average daily attendance (1914–15).*

County.	Amount.	County.	Amount.
1. Las Animas	$2.76	32. Jefferson	$3.74
2. Montezuma	3.02	33. Morgan	3.75
3. Mineral	3.04	34. San Miguel	3.75
4. Cheyenne	3.07	35. Elbert	3.76
5. Montrose	3.13	36. Clear Creek	3.78
6. Mesa	3.15	37. Eagle	3.80
7. Delta	3.17	38. Garfield	3.80
8. Rio Grande	3.22	39. Weld	3.83
9. Arapahoe	3.26	40. Phillips	3.86
10. Summit	3.26	41. Saguache	3.87
11. Otero	3.29	42. Yuma	3.91
12. Ouray	3.34	43. Adams	3.92
13. Fremont	3.35	44. Lake	3.92
14. Powers	3.36	45. Sedgwick	3.93
15. Pitkin	3.38	46. La Plata	4.11
16. Boulder	3.43	47. Pueblo	4.16
17. Chaffee	3.48	48. Dolores	4.17
18. San Juan	3.48	49. Grand	4.21
19. Gunnison	3.51	50. Moffat	4.22
20. Kiowa	3.51	51. Custer	4.24
21. Larimer	3.51	52. Routt	4.41
22. Lincoln	3.51	53. Conejos	4.47
23. Logan	3.51	54. Huerfano	4.53
24. Kit Carson	3.55	55. Crowley	4.55
25. Douglas	3.56	56. Bent	4.68
26. Denver	3.57	57. Jackson	4.69
27. Teller	3.58	58. Rio Blanco	4.99
28. Park	3.61	59. Archuleta	5.31
29. El Paso	3.65	60. Costilla	5.58
30. Alamosa	3.66	61. Washington	6.46
31. Gilpin	3.67		

Baca and Hinsdale Counties omitted as no data of average daily attendance were available for 1914–15.

TABLE 17.—*State fund received by each county for each teacher employed (1914–15).*

County.	Amount.	County.	Amount.
1. Park	$27	33. Rio Grande	$65
2. Cheyenne	30	34. Prowers	66
3. Hinsdale	33	35. Clear Creek	68
4. Douglas	37	36. Mesa	68
5. Kit Carson	40	37. Morgan	68
6. Washington	40	38. Chaffee	69
7. Eagle	43	39. Montrose	70
8. Elbert	43	40. Rio Blanco	70
9. Lincoln	43	41. Arapahoe	71
10. Moffat	45	42. Garfield	71
11. Kiowa	47	43. Fremont	72
12. Summit	47	44. Jefferson	72
13. Baca	49	45. Pitkin	72
14. Custer	49	46. Bent	74
15. Sedgwick	50	47. Delta	75
16. Phillips	51	48. Otero	77
17. Dolores	52	49. El Paso	78
18. Grand	52	50. La Plata	80
19. Logan	52	51. Las Animas	80
20. Gilpin	53	52. Larimer	81
21. San Miguel	55	53. Boulder	82
22. Gunnison	57	54. Weld	87
23. Jackson	57	55. Crowley	88
24. Saguache	57	56. Lake	89
25. Yuma	57	57. Teller	89
26. Montezuma	58	58. Huerfano	99
27. Ouray	58	59. Pueblo	103
28. Mineral	59	60. Archuleta	109
29. Routt	59	61. Denver	109
30. Adams	62	62. Costilla	119
31. San Juan	63	63. Conejos	121
32. Alamosa	65		

The unfairness of apportionment on the census basis is even more marked when distribution within the county among the districts is concerned. The variation in taxable property valuation among the districts is greater than among the counties. Table 18 shows the valuation per school child in two counties selected at random, one from those of low valuation and one from those about the average valuation for the State.

TABLE 18.—*Valuation of school districts in two counties per child 6 to 21 years of age, 1915.*

Conejos County: District		Otero County: District	
29	$617	11	$3,374
34	905	10	3,813
13	990	26	4,068
7	1,083	4	4,860
22	1,102	3	4,918
4	1,230	29	5,752
26	1,234	18	6,243
8	1,238	5	6,341
27	1,462	6	6,649
2	1,663	15	7,218
30	1,763	23	7,475
25	1,859	9	8,109
9	1,921	24	8,256
14	2,072	19	8,818
24	2,205	14	9,290
10	2,218	2	9,556
11	2,377	20	10,227
6	2,504	8	11,274
12	3,762	1	11,742
1	5,075	22	16,544
16	6,117	28	18,883
23	6,945	13	21,544
28	7,234		
5	8,993		
32	9,369		
33	18,177		
15	26,545		

Table 19 shows the same two counties with the districts arranged according to valuation per school child; also, for comparative purposes, the amount received from the State divided by the number of children in average daily attendance and the amount received from the State divided by the number of teachers employed.

TABLE 19.—*Comparison of valuation, with amount received from State, in two counties, 1914–15.*

County and district.	Valuation per school child, 6 to 21.	Amount received from State for every child in average daily attendance.	Amount received from State for every teacher employed.	County and district.	Valuation per school child 6 to 21.	Amount received from State for every child in average daily attendance.	Amount received from State for every teacher employed.
Conejos County:				Otero County:			
29	$617	$9.24	$171	11	$3,344	$3.08	$68
34	905	2.98	18	10	3,813	5.37	81
13	990	6.03	210	26	4,068	2.40	67
7	1,083	4.55	124	4	4,860	2.83	97
22	1,102	3.82	114	3	4,918	2.36	51
4	1,228	3.88	209	29	5,752	2.42	81
26	1,234	5.65	181	18	6,243	6.46	116
8	1,238	3.49	105	5	6,341	2.83	71
27	1,462	3.19	131	6	6,649	3.01	73
2	1,663	3.09	170	15	7,218	3.42	56
30	1,763	3.20	107	23	7,475	5.32	60
25	1,859	7.87	118	9	8,109	2.91	77
9	1,921	3.25	171	24	8,256	2.26	45
14	2,072	4.38	98	19	8,818	4.47	116
24	2,205	2.40	27	14	9,290	1.13	13
10	2,218	2.86	85	2	9,556	3.91	86
11	2,377	3.92	82	20	10,227	2.98	67
6	2,504	3.45	95	8	11,274	2.25	39
12	3,762	6.02	66	1	11,442	3.18	57
1	5,008	2.30	93	22	16,544	2.39	36
16	6,117	2.93	32	28	18,883	2.25	20
23	6,945	2.72	63	13	21,544	3.08	64
28	7,234	1.79	35				
5	8,993	3.58	60				
32	9,369	2.26	16				
33	18,172	5.57	25				
15	26,545	3.69	59				

TABLE 20.—*Amount received from State school funds by each district for each child in average daily attendance, and for each teacher regularly employed, 1914–15.*

County and district.	Amount received per child in average daily attendance.	Amount received per teacher employed.	County and district.	Amount received per child in average daily attendance.	Amount received per teacher employed.
Conejos County:			Otero County:		
28	$1.79	$35	14	$1.13	$13
32	2.26	16	(U. H. S.)	1.77	23
1	2.30	93	8	2.25	39
24	2.40	27	28	2.25	20
23	2.72	63	24	2.26	45
10	2.86	85	3	2.36	57
16	2.93	32	22	2.39	36
14	2.98	18	26	2.40	67
2	3.09	170	29	2.42	81
27	3.19	131	4	2.83	97
30	3.20	107	5	2.83	71
9	3.25	35	9	2.91	77
6	3.45	95	20	2.98	67
8	3.49	105	6	3.01	73
5	3.58	60	11	3.08	68
15	3.69	59	13	3.08	64
22	3.82	114	1	3.18	57
4	3.88	209	15	3.42	56
11	3.92	82	2	3.91	86
14	4.38	98	19	4.47	116
7	4.55	124	23	5.32	60
33	5.57	25	10	5.37	81
26	5.65	181	18	6.46	116
12	6.02	66			
13	6.03	210			
25	7.87	118			
29	9.24	171			

As the county general school tax is apportioned to the districts on the same basis as the State fund it does not remedy the inequalities shown above. Conejos County in 1915–16 raised by county tax approximately 1.7 times the amount received from the State; each district therefore received from the county fund approximately 1.7 times the amount given as having been received from the State in Table 20. In Otero County the county general tax in 1915–16 was practically twice the amount received from the State. Table 21 shows the proportion of the support in these two counties which came from the three sources, State, county, and local. Two districts in Conejos County (2 and 34) levied taxes but collected practically nothing during the school year. These schools were maintained with the money available from State and county funds and from warrants drawn against the district. Table 22 gives the districts arranged in order according to the percentage of their total support raised by district taxation. The actual mill levy is given also.

TABLE 21.—*School funds from the various sources in two counties, 1914–15.*

County and district.	Per cent received from—			County and district.	Per cent received from—		
	State.	County.	District.		State.	County.	District.
Conejos County:				Otero County:			
1	15	25	60	1	11	22	67
2	36	62	2	2	6	12	82
4	28	48	24	3	6	12	82
5	5	9	87	4	6	11	83
6	10	17	73	5	7	13	80
7	13	22	65	6	7	14	79
8	31	52	17	8	8	15	77
9	57	27	16	9	7	14	79
10	9	10	81	10	11	21	68
11	15	25	60	11	5	10	85
12	16	27	57	13	5	9	86
13	31	63	16	14	6	11	83
14	14	24	62	15	8	15	77
15	7	12	81	18	10	19	71
16	9	16	75	19	14	28	58
22	15	25	60	20	7	13	80
23	4	7	89	22	5	9	86
24	4	7	89	23	6	11	83
25	28	48	25	24	7	13	80
26	26	47	27	26	4	8	88
27	17	29	54	28	9	17	74
28	2	3	95	29	2	4	94
29	21	35	44				
30	13	22	65				
32	4	7	89				
33	20	34	46				
34	37	63	.....				

TABLE 22.—*Per cent of support from district tax and levy in two counties, 1914–15.*

County and district.	District tax—per cent of total support.	District levy in mills.	County and district.	District tax—per cent of total support.	District levy in mills.
Conejos County:			Otero County:		
34	0	15.00	19	58	.....
2	2	.....	1	67	.....
13	16	.82	10	68	3.5
8	17	.....	18	71	2.0
4	24	1.46	29	74	2.1
25	25	1.00	8	77	3.0
26	27	1.06	15	77	1.9
29	44	7.00	6	79	3.5
33	46	3.00	9	79	2.7
27	54	3.20	5	80	2.5
12	57	1.85	20	80	2.6
9	57	3.11	26	80	4.7
1	60	3.27	2	82	2.0
11	60	5.40	3	82	4.7
22	60	4.20	4	83	5.0
14	62	3.07	14	83	1.8
7	65	7.54	24	83	3.1
30	65	6.37	11	85	6.5
6	73	4.00	23	85	2.7
16	75	2.02	13	86	2.0
10	81	5.40	22	86	1.8
15	81	.68	28	88	2.5
5	87	4.00	U. H. S.	94	1.1
23	89	4.00			
24	89	3.00			
32	89	3.00			
28	95	4.00			

The actual general school levies in all counties for 1914–15 are given in Table 23. The table shows a variation from 0.4 mill to 3.75 mills, with an average of 0.92 mill. The figures are taken from the report of the State tax commission. They include the county high school taxes in the 19 county high schools, which are as follows:

	Mills.		Mills.
Bent	1.181	Montrose	1.570
Cheyenne	.666	Otero	1.100
Douglas	.910	Ouray	1.200
Eagle	.740	Phillips	1.300
Garfield	1.080	Rio Blanco	1.110
Gunnison	.800	Saguache	.500
Huerfano	.700	San Miguel	1.260
Jackson	.700	Washington	.750
Logan	1.690	Yuma	.720
Mineral	1.750		

TABLE 23.—*General county school tax (county high school tax included), 1914–15.*

County.	Tax.	County.	Tax.
	Mills.		*Mills.*
1. Mineral	3.75	33. Clear Creek	1.00
2. Gilpin	3.00	34. Costilla	1.00
3. Logan	2.54	35. Grand	1.00
4. Phillips	2.30	36. Hinsdale	1.00
5. Douglas	2.21	37. La Plata	1.00
6. Lake	2.20	38. San Juan	1.00
7. Ouray	2.10	39. San Miguel	1.00
8. Montrose	2.07	40. Teller	1.00
9. Bent	2.03	41. Rio Blanco	.90
10. Rio Grande	2.01	42. Pueblo	.85
11. Baca	2.00	43. Routt	.85
12. Denver	2.00	44. Conejos	.84
13. Montezuma	2.00	45. Lincoln	.84
14. Sedgwick	1.86	46. Park	.80
15. El Paso	1.74	47. Fremont	.70
16. Otero	1.72	48. Mesa	.70
17. Cheyenne	1.66	49. Moffat	.70
18. Garfield	1.63	50. Las Animas	.68
19. Yuma	1.62	51. Arapahoe	.65
20. Jefferson	1.50	52. Dolores	.60
21. Pitkin	1.50	53. Eagle	.60
22. Jackson	1.50	54. Boulder	.59
23. Morgan	1.42	55. Prowers	.56
24. Huerfano	1.40	56. Weld	.55
25. Gunnison	1.40	57. Archuleta	.50
26. Adams	1.34	58. Custer	.50
27. Washington	1.25	59. Kiowa	.50
28. Saguache	1.20	60. Summit	.50
29. Elbert	1.20	61. Chaffee	.45
30. Kit Carson	1.20	62. Crowley	.40
31. Larimer	1.10	63. Delta	.40
32. Alamosa	1.00		

Average 0.92 mills.

The variation of the proportion of the total school expenditure raised by the county school tax and by the State, shown in Table 13, causes necessarily a similar variation in the average local district taxation for the counties. These latter, as given by Sargent in his report on Colorado's school revenues,[1] are given in Table 24. Being county averages, the variation is not as great as the variation among districts within the counties. This is shown from the figures in Table 21, the variation in one county being from 1 to 15 mills and in the other from 1.1 to 6.5 mills.

[1] Published by the Colorado Agricultural College.

TABLE 24.—*Average special school tax for each county, 1914–15.*[1]

County.	Districts.			County.	Districts.		
	Third class.	Second class.	First class.		Third class.	Second class.	First class.
	Mills.	*Mills.*	*Mills.*		*Mills.*	*Mills.*	*Mills.*
Teller	6.91	.....	1.04	Alamosa	3.54	8.5	.....
Yuma	6.43	.....	.....	Lincoln	3.53	.....	.....
Clear Creek	5.55	7.4	.....	Weld	3.5	6.3	7.9
Gilpin	5.33	9.5	.....	Custer	3.38	.....	.....
Kit Carson	5.16	.....	.....	Elbert	3.38	.....	.....
Washington	5.1	.....	.....	Ouray	3.3	3.0	.....
Montezuma	5.06	8.5	.....	Huerfano	3.21	.....	5.9
Mesa	4.91	7.2	8.1	Las Animas	3.17	5.1	10.6
Delta	4.86	8.7	7.8	Arapahoe	3.01	5.9	.....
Mineral	4.85	.....	.....	Moffat	2.98	.....	.....
Fremont	4.83	7.9	7.7	Chaffee	2.9	6.5	8.5
Cheyenne	4.73	.....	.....	Bent	2.82	4.8	.....
Montrose	4.55	5.7	5.9	Summit	2.81	.....	.....
Baca	4.5	.....	.....	Grand	2.75	.....	.....
Logan	4.42	.....	6.3	San Miguel	2.74	3.0	.....
Prowers	4.33	4.8	8.5	Phillips	2.68	.....	.....
Kiowa	4.31	.....	.....	Larimer	2.66	6.0	5.7
Morgan	4.28	5.2	4.8	Otero	2.65	5.5	6.8
Sedgwick	4.17	.....	.....	Adams	2.6	7.5	.....
Pitkin	4.14	.....	8.5	Rio Blanco	2.52	5.0	.....
La Plata	4.11	.....	5.4	Dolores	2.47	.....	.....
Pueblo	4.11	.....	6.2	Rio Grande	2.34	7.9	.....
Eagle	4.08	.....	.....	Gunnison	2.31	3.0	.....
Garfield	4.02	5.2	.....	Saguache	2.29	.....	.....
Hinsdale	4.0	.....	.....	Lake	2.17	.....	5.0
El Paso	3.94	.....	5.0	Park	1.71	.....	.....
Boulder	3.88	10.0	7.4	Douglas	1.7	.....	.....
Crowley	3.77	6.5	.....	Jackson	1.01	.....	.....
Jefferson	3.62	7.9	.....	Denver	.....	.....	1.8
Archuleta	3.61	1.9	.....	San Juan	.....	3.5	.....
Routt	3.59	7.0	.....				
Costilla	3.56	.....	.....	Average	3.68	6.17	6.88
Conejos	3.55	.....	.....				

[1] From Sargent's "Study of School Revenue in Colorado."

The county tax, distributed as at present, works to the advantage of the first and second class districts and to the disadvantage of the third-class districts, where the cost of maintaining schools of an equivalent standard is usually greater than in the first and second class districts. This is because there are necessarily employed in country districts a larger number of teachers in proportion to the number of children than in city districts. This is shown in the following table taken from Sargent. If the county money were distributed also on the basis of the number of teachers employed, third-class districts would receive from the county funds on the whole an amount greater than that contributed by them.

TABLE 25.—*Apportionment of the general county school fund between first and second class districts on the one hand, and third-class districts on the other, showing the loss or gain sustained by the third-class districts, 1914–15.*

[Taken from Sargent's "A Study of School Revenue in Colorado." Counties not included have no first or second class districts.]

Counties.	Anticipated revenue from the general county school tax.			Gain or loss to third-class districts.	
	Received by first and second class districts.	Received by third-class districts.	Revenue produced by third-class districts.	Gain.	Loss.
Adams	$2,125	$11,186	$12,224		$1,038
Alamosa	4,296	2,454	4,583		2,129
Arapahoe	6,311	4,406	6,594		2,188
Archuleta	1,079	1,103	1,238		135
Bent	4,933	4,262	6,382		2,120
Boulder	16,571	6,970	10,944		3,974
Chaffee	406	116	333		117
Clear Creek	3,144	2,168	2,672		504
Crowley	2,003	1,346	1,626		280
Delta	3,822	2,288	2,723		435
El Paso	91,350	30,474	39,333		8,859
Fremont	9,613	4,460	6,331		1,871
Garfield	3,478	7,036	6,873	$163	
Gilpin	4,892	6,208	8,640		2,432
Gunnison	4,167	4,612	6,777		2,165
Huerfano	258	604	662		58
Jefferson	14,977	15,875	20,660		4,785
Lake	27,595	2,509	14,779		12,270
La Plata	6,435	8,850	8,936		86
Larimer	23,844	14,113	20,152		6,039
Las Animas	11,195	15,775	17,444		1,669
Logan	5,498	10,162	12,365		2,203
Mesa	9,632	9,987	11,190		1,203
Montezuma	4,025	8,710	9,730		1,020
Montrose	3,758	3,549	3,784		235
Morgan	15,650	8,352	9,288		936
Otero	12,650	4,645	7,158		2,513
Ouray	2,344	2,736	3,686		950
Pitkin	6,955	3,410	6,413		3,003
Prowers	4,736	5,741	7,231		1,490
Pueblo	45,839	10,094	14,685		4,591
Rio Blanco	2,145	2,216	3,249		1,033
Rio Grande	5,546	3,886	6,193		2,307
Routt	2,015	8,666	9,252		586
San Miguel	5,048	4,479	4,398	81	
Teller	16,312	1,531	3,242		1,711
Weld	1,591	2,614	3,117		503
Total	386,238	237,593	314,887	244	77,438

(3) SUMMARY.

The State school fund furnishes approximately 7 per cent of the total amount expended for the support of the public schools in the State. It should furnish from 30 to 40 per cent of the amount.

The counties furnish 22 per cent of the total amount expended for the support of schools. They should furnish, together with that supplied by the State, practically the entire amount necessary for *maintenance* of schools of minimum standards.

The need of a State fund to equalize the burden among the counties is shown by the variation in taxable valuation per child for the different counties. This valuation varies from $1,822 to $22,674. The need of a county fund as the principal source of support to

equalize the burden among districts is indicated by the variation in the district valuations of from $617 per school child to $75,444 per school child.

Distribution on the census basis has no relation to the effort which counties or districts are actually making in education. It does not encourage school authorities to require school enrollment and attendance, as the greater the number remaining out of school the greater is the amount of State and county money available for those who attend.

The amount now received from the State distributed on a basis which recognizes actual effort, namely, attendance and number of teachers employed, varies among counties from $2.76 to $6.46 for each child in average daily attendance and from $27 to $121 for each teacher employed. Among districts in two counties the State fund varies from $1.79 to $9.24 in one county and from $1.13 to $6.46 in the other per child in average daily attendance; and from $35 to $171 in one county and $13 to $116 in the other per teacher employed.

Distribution of State funds should be on the basis of the number of teachers employed and the aggregate attendance. Aggregate attendance is the total number of days actually attended by all the pupils. It depends, therefore, both on the daily attendance and the total number of days the school was maintained in the year. In making the distribution the State should pay to each county a fixed amount for each teacher employed and apportion the remainder of the State fund on the aggregate attendance. The State fund in 1915–16 amounted to practically $74 per teacher employed in the State. The Wyoming State fund was a little over $200 per teacher employed. Arizona raised approximately $325 per teacher. The California State fund is distributed on the basis suggested and amounts to $250 per teacher. The Colorado State fund should be large enough to pay at least $200 per teacher and leave from one-fourth to one-third of the total fund to be apportioned on the basis of aggregate attendance. This would encourage county school authorities to secure good attendance and to maintain longer terms.

Chapter V.

THE ADMINISTRATION OF SCHOOL INSTRUCTION.

The general plan of administration and organization affects directly the efficiency of classroom instruction in so far as it governs the quality of buildings furnished for school purposes and their equipment; length of term and regularity of attendance; the placing and selecting of teachers, their qualifications, tenure, salary, and supervision; and the course of study and textbooks used. Moreover, the consolidated school in the open country is the accepted solution of the problem of rural school efficiency, since the organization of the one-teacher school for purposes of class instruction and grading is not adapted to modern ideals and methods of teaching. The way in which the present method of administration of rural schools influences these matters will be considered in accordance with this classification.

(1) SCHOOL BUILDINGS AND EQUIPMENT.

All children should have an opportunity for education at public expense, in a schoolhouse reasonably accessible, and in buildings which insure at least convenience, comfort, and healthful conditions. Wherever investigations have been made regarding the health of city and country children a far higher percentage of physical defectiveness is shown among rural than among city children. This fact is arousing new interest in everything affecting the health of children, and particularly in the school-building problem. The following minimum requirements for rural schools are summarized from a recent bulletin distributed by the Bureau of Education:

Country school children should have as sanitary and attractive schools and as intelligent and effective health care as school children in the cities. A one-teacher country school should contain a small entrance hall, a retiring room, a workshop, and a classroom not less than 30 feet long, 20 feet wide, and 12 feet high. There should be an adequate system of ventilation, and unless a furnace or other system of heating is installed, a properly jacketed stove. (No unjacketed stove should be tolerated in any school.) The schoolroom should receive an abundance of light, from the left side or from the left side and the rear. The schoolhouse and surroundings should be kept as clean as a good housekeeper keeps her home. Drinking water should be available for every pupil at any time of day and should come from a safe source. Every rural school should have a sanitary drinking fountain. Individual drinking cups are theoretically and in some conditions all right, but practical experience has

proved that individual cups used more than once are insanitary and unhygienic. Therefore they are not advocated nor approved. Facilities for washing hands should be always available. School seats and desks should be hygienic in type and adjusted at least twice a year to the needs of growing children.

Toilets should be sanitary in location, construction, and maintenance. If there is no water system, separate toilets should be located at least 50 feet in different directions from the schoolhouse, with the entrances screened.

The bureau's questionnaires brought reports from 1,267 Colorado school buildings, of which 76 per cent were one-room rural schools. Of the total buildings reported 60 per cent were new. The insanitary conditions shown in the table submitted and referred to here can therefore not be ascribed to the age of these buildings. The reports indicate clearly that lighting, heating, ventilating, water supply, and similar considerations necessary to proper sanitation have received very little attention from persons responsible for school buildings.

The conditions as set forth in Table 24 show among other things: Eighty-one per cent of the schools report insufficient or cross lighting—some buildings have windows on all four sides; the reports from six counties do not include even one school with any provision for ventilating other than windows and doors; few buildings heated by jacketed stoves, steam, or furnace; an insignificant number of school plants with satisfactory water supply and drinking equipment; cloakrooms and clean interiors are among the necessaries found in fewer than half the total number reporting.

Equipment.—The table also shows a serious lack of proper equipment for purposes of instruction. Blackboards, charts, reference and supplementary reading books are the materials most frequently missing. In nine counties no supplementary reading material is supplied. In addition to the equipment actually used in teaching, physical equipment such as shades, pictures, hygienic desks are supplied in very few rural schools.

Playgrounds.—Grounds large enough and otherwise suitable for play purposes are not furnished to rural schools except in rare instances. Even fenced yards are reported in but 30 per cent of the buildings included in the summary, and the equipment which distinguishes a mere fenced prairie from a real playground is reported in but 19 per cent of the replies.

Toilets.—The kind and condition of toilets furnished for school children have both a hygienic and moral significance That those providing the facilities furnished in Colorado rural schools ignore the seriousness of the whole matter is apparent from the table. Probably the most serious condition reported exists in the 12 per cent of the schools which have but one toilet on the school grounds.

It is apparent from the above summary and from the tables given in this report that school children in rural districts are badly housed. There are many well-kept, sanitary, and attractive buildings in the

State, and many of the poorest possible quality, with examples of both varieties often existing in adjoining districts. Colorado's greatest need in the matter of rural school buildings seems to be that the State or county should adopt some settled and economical policy of schoolhouse construction which will provide measures of general improvement for present conditions and certain minimum standards for the future. One plan would be the employment of a State school architect in the State department of education to approve the plans of all proposed school buildings. The department should have prepared and available for distribution illustrations, plans, and specifications of standard school buildings.

TABLE 26.—*Rural school buildings.*

Number reporting	1,267
	Per cent.
New buildings (since 1900)	60
One-room schools	76
Material:	
Brick or stone	18
Adobe or logs	14
Frame	68
Repair:	
Good	51
Fair	39
Poor	10
Heating:	
Ordinary stoves	67
Jacketed stoves	20
Furnace or steam	13
Thermometer in room	23
Ventilation, windows only	76
Equipment:	
Insufficient blackboard	25
Stationary desks	84
Single desks	52
Supplementary readers	22
Reasonable general equipment	61
Shades for windows	81
Pictures	41
Clean interior	35
Janitor	19
Cloakroom	48
Workroom	9
Library	14
Assembly room	7
Water supply:	
Drinking water on grounds	39
Drinking water kept in uncovered receptacle	27
Drinking fountain	13
Individual cups	45
Provision for washing	65

	Per cent.
Playground:	
With 1 acre of ground or more fenced	30
With playground equipment	19
With shade trees	30
With yard irrigated	11
Privies:	
Outside school building	95
Inside	5
Earth	92
Water	8
With one only	12
With two less than 50 feet apart	51
With two at proper distance	37
In good repair	51
In fair repair	31
In poor repair	18
Clean and sanitary	68
Free from markings	86

(2) SCHOOL ATTENDANCE.

The legal school age in Colorado is from 6 to 21 years. The real school population, however, includes those from 6 to 18 or 19 years old when high school facilities are furnished and from 6 to 15 or 16 years old when they are not. The compulsory school age is 8 to 14 years if the child has completed the work of the elementary school at the end of this period, but may extend to 16 years if this work is not completed earlier. The law exempts children between these ages under certain conditions. Permits of exemption are issued by and at the discretion of the county and city superintendents. The school boards in the various districts are responsible for the census enumeration, which includes all children of legal school age residing in the districts on the 10th day of February, and which must be filed with the county superintendents on or before the first day of April of each year. The law prescribes it as the duty of the county superintendents to examine and correct these lists from the various districts and to file a certified county enumeration with the State superintendent in June of each year. In addition to this census list the law requires that the county superintendent file an annual report with the State superintendent in September of each year, containing among other things the census enumeration (which should be an exact duplicate of that filed in June), and attendance data taken from the teachers' annual reports. The latter must be filed with the county superintendent before the teachers can draw their salary for the closing month of the school year. In this way the county superintendent has a check on the correctness of reports from the secretaries of the school boards and the teachers and should therefore assume responsi-

bility for the district reports, while the State superintendent is in turn responsible for those of the county superintendents. The following data show the number of districts in the State, the census, enrollment, and average daily attendance for each year from 1910 to 1915. The data for 1915 are taken directly from the county superintendents' reports. Figures for the years 1910 to 1914, inclusive, are from the biennial reports of the State superintendents, which in turn were made from reports of the county superintendents.

TABLE 27.—*Number of school districts, census enrollment, and average daily attendance for six years.*

School year ending June 30—	Number of districts.	Census 6 to 21.	Total number enrolled.	Per cent of census enrolled.	Average daily attendance.	Per cent of enrollment in average attendance.	Per cent of census enumeration in average daily attendance.
1910	1,690	221,964	168,798	76	107,520	64	48
1911	1,722	223,274	173,229	78	118,245	68	53
1912	1,753	227,187	177,428	78	120,326	67	53
1913	1,757	225,841	172,196	76	117,833	68	52
1914	1,784	227,172	178,392	79	118,972	66	52
1915	1,846	227,546	174,593	77	129,117	[1] 73	57

[1] It is improbable that an actual increase of 7 per cent occurred from 1914 to 1915. The 1915 average daily attendance is undoubtedly too high.

It is apparent that serious errors exist in the Colorado attendance reports, either in the census enumeration or through duplicate enrollment—possibly both.[1] The percentage of enrollment to census in 1910 as given in the above table is 76 per cent, while the Federal census for 1910 records 68 per cent of the school population enrolled in school. The county superintendents' reports for 1914–15, excluding Denver, record an enrollment which is 79 per cent of the census enumeration. Denver in the same year enrolled but 65 per cent of its census. In nearly all States rural school enrollment is larger in proportion to the population than city school enrollment. Daily attendance is less. It is improbable, however, that the enrollment for the rest of the State of Colorado was as much greater than that of Denver as these figures indicate, for the attendance law within Denver is enforced more strictly than in rural districts; its schools are accessible to all the children living in the district and its high schools have a large attendance. For the United States as a whole, approximately 60 per cent of the children from 6 to 21 years are enrolled in schools. A census enumeration extending from 6 to 21 years really includes 20 per cent who are over actual school age. Few pupils remain in school after their nineteenth birthday; normally they complete high school at the age of 18.

[1] See Table 28.

TABLE 28.—*School census 6 to 21 years of age, as reported by county superintendents for Feb. 10, 1910, and by Federal census, 1910.*

County.	County superintendent census.	Federal census.	Difference.	County.	County superintendent. census.	Federal census.	Difference.
Adams	2,732	2,565	167	La Plata	2,933	3,143	−210
Arapahoe	2,858	2,583	275	Larimer	7,227	7,683	−456
Archuleta	1,140	1,006	134	Las Animas	10,381	9,657	724
Baca	790	700	90	Lincoln	1,854	1,562	292
Bent	1,383	1,423	− 40	Logan	2,871	2,683	188
Boulder	8,504	8,875	−371	Mesa	6,121	6,535	−414
Chaffee	2,182	2,001	181	Mineral	306	313	− 7
Cheyenne	1,101	1,000	101	Montezuma	1,439	1,467	− 28
Clear Creek	1,357	1,229	128	Montrose	3,167	2,927	240
Conejos	3,945	3,649	296	Morgan	3,557	2,819	738
Costilla	1,884	1,848	36	Otero	6,228	6,100	128
Custer	582	579	3	Ouray	820	847	− 27
Delta	4,220	4,191	29	Park	305	578	−273
Denver	51,938	51,958	− 20	Phillips	1,006	1,039	− 33
Dolores	165	176	− 11	Pitkin	1,299	1,323	− 24
Douglas	929	933	− 4	Prowers	2,793	2,825	− 32
Eagle	722	757	− 35	Pueblo	15,060	13,210	1,850
Elbert	1,758	1,651	107	Rio Blanco	746	660	86
El Paso	12,738	11,198	1,540	Rio Grande	2,150	1,935	215
Fremont	5,037	5,018	19	Routt	1,745	1,977	−232
Garfield	2,584	2,792	−208	Saguache	1,642	1,259	383
Gilpin	1,064	1,076	− 12	San Juan	443	464	− 21
Grand	532	422	110	San Miguel	999	904	95
Gunnison	1,506	1,467	39	Sedgwick	852	872	− 20
Hinsdale	154	142	12	Summit	435	417	18
Huerfano	3,875	3,999	−124	Teller	3,592	3,440	152
Jackson	236	277	− 41	Washington	1,921	1,768	153
Jefferson	4,084	4,414	−330	Weld	11,453	11,404	49
Kiowa	1,090	785	305	Yuma	2,879	2,669	210
Kit Carson	2,420	2,174	246				
Lake	2,287	2,572	−285	Total	222,630	215,940	.....

TABLE 29.—*Per cent of census (6 to 21 years) reported by county superintendents as enrolled in schools 1914–15, per cent of those enrolled attending daily, and per cent of census number attending daily.*

County.	Per cent of census enrolled.	Per cent of enrollment in average daily attendance.	Per cent of census in average daily attendance.	County.	Per cent of census enrolled.	Per cent of enrollment in average daily attendance.	Per cent of census in average daily attendance.
Adams	*82*	65	55	Lake	64	85	54
Alamosa	79	72	57	La Plata	74	69	51
Arapahoe	*86*	75	64	Larimer	*84*	70	59
Archuleta	64	61	39	Las Animas	*80*	66	53
Baca	62	.....	.....	Lincoln	*84*	70	59
Bent	71	64	45	Logan	*89*	66	59
Boulder	79	77	61	Mesa	87	77	67
Chaffee	78	76	59	Mineral	75	91	68
Cheyenne	*95*	71	67	Moffat	71	70	50
Clear Creek	75	77	58	Montezuma	*82*	84	69
Conejos	72	65	47	Montrose	*90*	74	67
Costilla	62	60	37	Morgan	*90*	62	56
Crowley	*82*	56	46	Otero	*93*	68	63
Custer	69	71	49	Ouray	*84*	75	63
Delta	91	72	65	Park	73	79	58
Dolores	76	65	49	Phillips	*83*	66	55
Douglas	78	74	58	Pitkin	66	93	61
Eagle	*84*	66	55	Prowers	*87*	71	62
Elbert	*81*	68	55	Pueblo	65	77	50
El Paso	76	75	57	Rio Blanco	66	64	42
Fremont	*82*	76	62	Rio Grande	*92*	70	64
Garfield	*86*	65	56	Routt	*88*	54	48
Gilpin	68	83	56	Saguache	*83*	65	54
Grand	74	67	50	San Juan	79	76	60
Gunnison	*82*	73	60	San Miguel	*86*	65	56
Hinsdale	*86*	.....	.....	Sedgwick	*96*	55	53
Huerfano	76	60	46	Summit	*86*	74	64
Jackson	61	73	44	Teller	73	80	58
Jefferson	75	74	55	Washington	*83*	57	46
Kiowa	*82*	73	60	Weld	*80*	68	54
Kit Carson	*86*	68	58	Yuma	*83*	65	54

Table 29 shows the percent of enrollment, based on the census, for all the counties in the State but two, which failed to report. In two counties superintendents report 95 per cent or more of the school population 6 to 21 years of age enrolled; in five other counties from 90 per cent to 95 per cent, and in 24 others from 85 per cent to 90 per cent. Only 17 counties report a percentage of enrollment which corresponds to that of Denver and the United States as a whole, namely, below 70 per cent. It is probable that the relation of enrollment to census as given is reasonably accurate only in these 17 counties and perhaps in a few others reporting slightly over 70 per cent. Little reliance can be placed upon the figures in the superintendents' reports. A comparison of the two certified census reports of the county superintendents formerly referred to, namely, those filed in June (as a basis of apportionment) and those filed in September (on the county superintendents' annual reports), which should be identical, as only one school census is taken each year, do not agree in the 1914–15 reports from 26 counties.

Table 30 shows the number of districts, census, enrollment, and average daily attendance from all of the counties in the State, also the number of children enrolled who are not attending school daily, and the number 6 to 21 years of age not attending daily.

TABLE 30.—*Number of children in census and enrolled not in average daily attendance.*

County.	Number of districts.	Census total 6 to 21 years.	Total enrollment.	Average daily attendance.	Number census children not attending daily.	Number of children enrolled not attending daily.
Adams	38	2,900	2,388	1,553	1,347	835
Alamosa	18	1,334	1,060	766	568	294
Arapahoe	28	2,734	2,358	1,772	952	586
Archuleta	14	1,347	871	533	814	338
Baca	19	984	609	.....	.....	.....
Bent	20	1,810	1,297	834	976	364
Boulder	66	8,623	6,795	5,283	3,340	1,512
Chaffee	27	2,174	1,708	1,312	862	396
Cheyenne	10	823	784	562	261	222
Clear Creek	10	1,093	820	634	359	186
Conejos	28	3,104	2,236	1,455	1,049	781
Costilla	12	1,701	1,058	640	1,061	418
Crowley	10	1,717	1,417	793	924	624
Custer	23	561	391	278	283	113
Delta	22	4,427	4,047	2,937	1,490	1,110
Denver	1	49,738	32,746	29,226	20,512	3,520
Dolores	4	173	132	87	86	45
Douglas	37	865	679	507	358	172
Eagle	23	896	751	496	400	255
Elbert	46	1,882	1,530	1,050	832	480
El Paso	56	11,669	8,866	6,681	4,988	2,185
Fremont	36	4,973	4,106	3,116	1,857	990
Garfield	43	2,857	2,441	1,586	1,271	855
Gilpin	14	751	515	430	321	85
Grand	16	499	369	249	250	120
Gunnison	29	1,519	1,248	910	609	338
Hinsdale	5	126	108	.....	.....	.....
Huerfano	43	4,534	3,460	2,103	2,433	1,357
Jackson	6	270	164	121	149	43
Jefferson	50	3,903	2,938	2,190	1,813	748
Kiowa	17	1,144	937	684	460	253

TABLE 30.—*Number of children in census and enrolled not in average daily attendance*—Continued.

County.	Number of districts.	Census total 6 to 21 years.	Tstal enrollment.	Average daily attendance.	Number census children not attending daily.	Number of children enrolled not attending daily.
Kit Carson	56	2,137	1,853	1,262	865	591
Lake	9	2,376	1,501	1,273	1,103	228
La Plata	34	3,563	2,633	1,819	1,744	814
Larimer	51	7,794	6,593	4,662	3,132	1,931
Las Animas	81	10,494	8,436	5,590	4,904	2,846
Lincoln	27	1,944	1,650	1,160	784	490
Logan	57	3,543	3,175	2,094	1,449	1,081
Mesa	38	6,074	5,254	4,052	2,022	1,202
Mineral	6	281	212	194	87	18
Moffat	15	561	399	279	282	120
Montezuma	22	1,582	1,303	1,099	483	204
Montrose	28	3,564	3,207	2,385	1,179	822
Morgan	17	3,828	3,463	2,143	1,685	1,320
Otero	23	5,473	5,103	3,492	1,981	1,611
Ouray	14	830	698	522	308	176
Park	20	397	290	230	167	60
Phillips	34	1,069	884	582	487	302
Pitkin	15	1,231	815	763	468	52
Prowers	45	3,214	2,812	2,004	1,210	808
Pueblo	49	15,117	9,849	7,630	7,487	2,219
Rio Blanco	12	862	567	363	499	2 4
Rio Grande	27	1,835	1,706	1,195	640	5 1
Routt	34	2,115	1,871	1,007	1,108	8 4
Saguache	32	1,573	1,306	854	719	4[illegible]2
San Juan	1	420	332	254	166	78
San Miguel	11	1,206	1,037	675	531	3[illegible]2
Sedgwick	25	976	941	522	454	4[illegible]9
Summit	9	383	330	246	137	84
Teller	14	3,485	2,559	2,041	1,444	518
Washington	63	2,164	1,801	1,029	1,135	772
Weld	114	13,141	10,528	7,199	5,942	3,329
Yuma	93	3,183	2,656	1,710	1,473	946
Total	1,847	227,546	174,593	129,117	98,429	45,476

Table 31 shows census and enrollment data for children between 8 and 14 years, as given in the county superintendents' reports to the State superintendent for the year 1914–15. In 28 of these counties the number enrolled exceeds the total census enumeration from 1 per cent to 25 per cent. In one county the number enrolled is equal to the census. The apparent purpose of this data (8 to 14 years) is to show the number of children who are not reached by the compulsory attendance law. If correct data were available the enrollment of children between the ages of 8 and 14 years subtracted from the census enumeration 8 to 14 would show the number of children who should be in school and are not, although within the age period when attendance is compulsory and when the enforcement of the law is most apt to be needed. The given data are useless for this purpose in 29 counties of the State because of the condition stated. In the other 33 counties 4,845 children, or 12 per cent of the census enumeration between 8 and 14, are reported not enrolled in school.

Because of the obvious errors, some of which have been referred to, the summaries given in this study are not those in the county superintendents' reports, but are made from original data given in the

reports; hence the total percentages, per capita costs, etc., are correct on the basis of the census enrollment, total costs, etc., as given by the county superintendents. This assumes that while many county superintendents do not make correct financial summaries or compute accurate averages and per capita expenses, etc., they do report with reasonable correctness the census filed with the State superintendent as the basis for apportionment of the State school funds and such expenditures and other financial data as can be obtained from the county treasurers' offices. This assumption, as pointed out above, is not in all cases justified, but the statistics taken are as nearly correct as it is possible to obtain under existing conditions. It is practically inevitable that often the census figures are taken carelessly by district clerks or their hired enumerators, and while it is the duty of the county superintendent to examine carefully these census lists and to eliminate errors, it is apparent they do not in many cases. It is possible that in unusual instances the attendance at school may be equal to or greater than the census enumeration, even though data are carefully and correctly given, because of changes in population through the moving of families from one district to another; but it is practically impossible that this should happen in 28 counties and that there should be enrolled 3,000 more children between 8 and 14 years than the census records. One county superintendent confesses to his own lack of inclination to criticize census enumerations as reported by district secretaries so long as he himself holds his position by popular vote.

TABLE 31.—*Children of compulsory age not attending school.*

County.	Census 8–14 years.	Total reported enrolled in school 8–14 years.	Reported enrolled more than census.	Number reported not in school 8–14 years.
Adams	1,399	1,441	42	.....
Alamosa	799	631	.....	168
Arapahoe	1,354	1,694	340	.....
Archuleta	731	547	.....	184
Baca	467	.....	.....	.....
Bent	1,079	803	.....	276
Boulder	3,779	3,740	.....	39
Chaffee	997	1,148	151	.....
Cheyenne	375	416	41	.....
Clear Creek	513	472	.....	41
Conejos	1,690	1,388	.....	302
Costilla	767	591	.....	176
Crowley	886	795	.....	91
Custer	294	294	.....	.....
Delta	2,327	2,323	.....	4
Dolores	73	90	17	.....
Douglas	421	480	59	.....
Eagle	475	544	31	.....
Elbert	1,398	917	.....	481
El Paso	4,609	4,955	346	.....
Fremont	2,133	2,356	173	.....
Garfield	1,492	1,377	.....	115
Gilpin	292	302	10	.....
Grand	221	233	12	.....
Gunnison	762	734	.....	28
Hinsdale	60	50	.....	10
Huerfano	2,437	2,341	.....	96

TABLE 31.—*Children of compulsory age not attending school*—Continued.

County.	Census 8–14 years.	Total reported enrolled in school 8–14 years.	Reported enrolled more than census.	Number reported not in school 8–14 years.
Jackson	95	106	11	.....
Jefferson	1,709	1,761	52	.....
Kiowa	554	556	2	.....
Kit Carson	1,032	1,066	34	.....
Lake	1,088	790	.....	298
La Plata	1,700	1,435	.....	265
Larimer	3,607	3,754	54	.....
Las Animas	5,198	5,033	.....	165
Lincoln	986	958	.....	28
Logan	1,783	1,850	67	.....
Mesa	2,793	2,889	116	.....
Mineral	129	125	.....	4
Moffat	326	278	.....	48
Montezuma	834	740	.....	94
Montrose	1,729	2,075	346	.....
Morgan	1,739	1,567	.....	172
Otero	2,560	3,002	442	.....
Ouray	372	410	38	.....
Park	204	198	.....	6
Phillips	484	572	88	.....
Pitkin	547	477	.....	70
Prowers	1,496	1,628	132	.....
Pueblo	6,991	5,695	.....	1,296
Rio Blanco	464	376	.....	88
Rio Grande	937	978	41	.....
Routt	988	1,014	26	.....
Saguache	871	811	.....	60
San Juan	183	173	.....	10
San Miguel	567	559	.....	8
Sedgwick	530	554	24	.....
Summit	172	206	34	.....
Teller	1,479	1,448	.....	31
Washington	1,143	1,040	.....	103
Weld	6,458	6,700	242	.....
Yuma	1,547	1,473	.....	74
Total	85,155	83,208	2,971	4,845

Length of school term.—It is apparent that the effectiveness with which a school serves the community depends on the length of term quite as much as on the regularity of attendance, and that the average daily attendance, which may be raised by a few regular attendants, is not so important a consideration as the number of days attended by all the children enrolled. Table 32 shows that the number of days school was in session in the various counties during the school year 1914–15 varied in graded schools from a minimum of 101 days to a maximum of 180, with an average for the State of 174 days, or nearly 9 months in graded schools. In rural schools the minimum length of term falls below 100 days in 22 counties; 1 county reported 1 school conducted 18 days or less than 1 month; 1 county reported a school conducted 35 days; 6 counties reported schools conducted 40 days or 2 months; 5 counties reported schools with terms of 3 months; and 9 additional counties reported schools with more than 3 but less than 5 months of school. Since county superintendents report averages on districts only, it is not possible to state accurately how many schools have these short terms. A study of the 52 county superintendents' reports for

1915–16 received by the State superintendent's office up to November 1, 1916, shows (see Table 45):

Districts that maintained an average term of—	
Less than 100 days	37
From 100 to 110 days	13
From 110 to 120 days	12
From 120 to 140 days	212
Less than 140 days	284

The average for rural schools, as given in the county superintendents' reports, is 148 days, or about 7 months. Included as rural in the table are all schools listed as "rural" by the county superintendents in their reports to the State superintendent. It should be explained, however, that the State department, while requiring county superintendents to report on "rural" and "graded" schools separately, does not define the terms. Each county superintendent makes his own interpretation. In some cases the county superintendent lists as "graded" all one-teacher schools in which a distinction exists corresponding to that in regular city graded schools. In other cases the county superintendent lists all one-teacher schools as "rural."

TABLE 32.—*Whole number of days school was taught, 1914–15.*

County.	Rural.			Graded.		
	Maximum.	Minimum.	Average.	Maximum.	Minimum.	Average.
Adams	190	120	177	190	180	183
Aamosa	180	100	149	170	170	170
Arapahoe	180	140	169	200	180	189
Archuleta	194	80	137	180	176	178
Baca						
Bent	180	120	159	180	180	180
Boulder	180	74	166	180	171	175
Chaffee	180	90	158	180	178	179
Cheyenne	170	140	159	180	180	180
Clear Creek	180	60	140	200	180	184
Conejos	180	100	138	180	120	159
Costilla	180	100	144	180	180	180
Crowley	180	140	169	180	180	180
Custer	180	80	120			
Delta	180	40	145	180	156	169
Dolores				180	140	159
Douglas	180	78	146	180	172	174
Eagle	180	106	147	180	101	164
Elbert	180	98	140	180	180	180
El Paso	180	120	154	190	174	178
Fremont	220	120	163	180	180	180
Garfield	200	120	165	180	180	180
Gilpin	179	83	130	190	180	188
Grand	180	120	161			
Gunnison	180	120	148	180	168	178
Hinsdale	180	18	59	170	170	170
Huerfano	180	60	131	190	160	178
Jackson	180	116	141	180	180	180
Jefferson	180	40	119	180	170	179
Kiowa	180	40	138	160	160	160
Kit Carson	180	120	140	180	160	174
Lake	185	145	167	185	185	185
La Plata	240	80	120	180	160	170
Larimer	180	116	155	180	180	180
Las Animas	180	65	118	190	176	180

TABLE 32.—*Whole number of days school was taught, 1914–15*—Continued.

County.	Rural.			Graded.		
	Maximum.	Minimum.	Average.	Maximum.	Minimum.	Average.
Lincoln	160	120	132	180	180	180
Logan	180	110	157	190	175	184
Mesa	160	120	152	190	160	176
Mineral	180	112	156	180	180	180
Moffat	190	35	147	176	154	165
Montezuma	180	120	149	180	180	180
Montrose	180	40	147	180	160	175
Morgan	180	150	168	180	160	170
Otero	180	120	155	180	143	169
Ouray	180	120	166	180	171	177
Park						
Phillips	180	120	159	180	180	180
Pitkin	200	120	173	180	180	180
Prowers	180	120	145	180	160	172
Pueblo	180	120	163	190	180	186
Rio Blanco	180	100	134	180	180	180
Rio Grande	180	120	159	190	180	185
Routt	180	40		180	164	174
Saguache	190	60	139	180	180	180
San Juan	180	180	180	180	180	180
San Miguel	184	40	153	181	180	180
Sedgwick	200	120	169			
Summit	160	120	140	180	180	180
Teller	180	60	147	180	180	180
Washington	180	115		178	178	178
Weld	180	120	173	180	167	179
Yuma	180	120	138	180	180	180

The actual number of days attended by all pupils enrolled is a fairer standard of the work of the school than the total enrollment or average daily attendance. An efficient school interests the children and retains all of those who should be there throughout the full term. Data on this point are not given in the reports of the county superintendents. The figure is, however, computed in Table 33 as correctly as possible from the available data on average daily attendance, enrollment, and length of term in the superintendents' reports. A comparison of the average length of term and the average number of days attended shows that many children fail to take advantage of even the meager number of school months offered. For instance, the average number of days schools was taught in Huerfano County is 131, but the children enrolled attended school only 79 of the 131 days. Archuleta offers an average of 137 days of school, but children enrolled attend on an average only 84 days; and so on throughout the list of counties. For the State as a whole the average number of days attended by the children in rural schools is 106, or practically five school months. In considering these figures it is well to keep in mind not only the unfortunate conditions which deprive children of more than five months of school, but the fact that education is usually far more expensive in schools in which the attendance is poor than in those in which the children enrolled come to school regularly, although economy is the usual argument given for short terms. The amount of money necessary to provide for the support of schools is usually

estimated on probable enrollment. Children who come to school must be taken care of whether they attend regularly or not (see Table 34). Poor attendance means that the community loses because it fails to get value received in actual service for the money expended and the State loses because it fails to educate all of its children.

TABLE 33.—*Average number of days attended by each child enrolled, 1914–15.*

County.	Rural.		Graded.	
	Average number of days attended by each child enrolled.	Average length of term in days.	Average number of days attended by each child enrolled.	Average length of term in days.
Las Animas	78	118	118	180
Huerfano	79	131	108	178
La Plata	83	120	117	170
Archuleta	84	137	109	178
Custer	85	120	.....	.....
Rio Blanco	87	134	115	180
Costilla	87	144	109	180
Crowley	87	169	101	180
Jefferson	88	119	154	179
Yuma	88	138	116	180
Conejos	89	138	103	159
Saguache	91	139	117	180
Lincoln	93	132	126	180
Sedgwick	94	169	.....	.....
Kit Carson	95	140	118	174
Elbert	96	140	123	180
Eagle	97	147	108	164
Washington	97	170	102	178
San Miguel	100	153	118	180
Kiowa	101	138	116	160
Bent	102	159	116	180
Logan	103	157	121	184
Moffat	103	147	115	165
Prowers	103	145	123	172
Jackson	104	141	133	180
Morgan	104	168	105	170
Phillips	104	159	118	180
Summit	104	140	134	180
Delta	105	145	122	169
Otero	106	155	115	169
Garfield	107	165	117	180
Alamosa	108	149	123	170
Clear Creek	108	140	142	184
Gilpin	108	130	157	188
Grand	108	161	.....	.....
Gunnison	108	148	129	178
Douglas	109	146	129	174
Larimer	109	155	127	180
Montrose	110	147	131	175
Rio Grande	112	159	129	185
Cheyenne	114	159	129	180
Adams	115	177	119	183
El Paso	116	154	134	178
Mesa	117	152	136	176
Teller	118	147	143	180
Weld	118	173	122	179
Chaffee	121	158	137	179
Fremont	124	163	136	180
Ouray	124	166	132	177
Montezuma	126	149	152	180
Arapahoe	127	169	142	189
Pueblo	127	163	144	186
Boulder	129	166	136	175
Lake	137	167	157	185
San Juan	137	180	137	180
Mineral	143	156	165	180
Pitkin	162	173	168	180
Dolores	.....	.....	105	159
Hinsdale	.....	59	.....	170
Routt	.....	.....	93	174
Park (no data)	.....	.....	.....	.....

TABLE 34.—*Average cost per pupil, 1914–15.*

County.	Cost based on enrollment.	Cost based on average daily attendance.	County.	Cost based on enrollment.	Cost based on average daily attendance.
Adams	$30.71	[1] $53.67	Lake	44.78	52.81
Alamosa	50.63	70.07	La Plata	34.87	50.53
Arapahoe	38.06	50.65	Larimer	33.01	46.67
Archuleta	23.93	39.09	Las Animas	26.73	40.34
Baca	28.30	[1] 118.06	Lincoln	43.43	61.78
Bent	32.98	51.30	Logan	43.15	65.43
Boulder	39.81	51.20	Mesa	42.68	[1] 55.34
Chaffee	37.38	48.66	Mineral	55.09	60.21
Cheyenne	59.48	82.97	Moffat	40.42	57.80
Clear Creek	40.56	[1] 52.46	Montezuma	37.46	44.42
Conejos	24.96	38.36	Montrose	37.28	50.13
Costilla	21.39	35.36	Morgan	40.54	[1] 65.52
Crowley	38.59	68.96	Otero	34.05	49.76
Custer	27.03	37.99	Ouray	42.08	56.27
Delta	31.55	43.48	Park	63.43	79.97
Dolores	52.10	79.05	Phillips	40.14	61.15
Douglas	57.23	77.43	Pitkin	44.47	47.44
Eagle	53.53	81.05	Prowers	48.93	68.66
Elbert	30.47	44.40	Pueblo	57.43	71.50
El Paso	52.82	70.10	Rio Blanco	53.64	83.79
Fremont	41.14	54.21	Rio Grande	29.39	41.97
Garfield	37.32	[1] 57.45	Routt	33.65	62.53
Gilpin	70.28	84.17	Saguache	35.93	54.95
Grand	38.36	56.84	San Juan	77.31	101.06
Gunnison	44.25	60.70	San Miguel	50.45	77.21
Hinsdale	55.78	.....	Sedgwick	30.91	55.73
Huerfano	30.48	50.14	Summit	72.44	97.17
Jackson	53.42	72.39	Teller	47.01	58.94
Jefferson	34.46	46.20	Washington	25.12	43.97
Kiowa	41.58	[1] 56.96	Weld	43.27	63.28
Kit Carson	35.49	52.11	Yuma	25.12	39.02

[1] Data on this item given in reports from these counties are so incomplete that absolute accuracy is not possible.

Compulsory-attendance law.—The very great difference above referred to and shown in Table 33 between the number of days school is taught and the actual attendance can be adequately explained only by assuming laxity in the enforcement of the attendance law. Excluding children who are ill and families in which there is illness, all or nearly all of those enrolled should be in attendance the full number of days school is maintained in the district. The Colorado law requires all children of compulsory school age to attend the full time school is taught in the district, and the means of enforcing this law are apparently adequate in districts of the first class and those of the second class with sufficient funds to engage truant and attendance officers. However, outside of these districts it is evident that the law is not enforced. Third-class districts can scarcely afford to spend the money to retain a truant officer, except very irregularly. A large percentage of the school directors in third-class districts are reported by the teachers as lax in the purchase of books and the care of school buildings, and these directors can scarcely be expected to encounter the danger of having trouble with their neighbors in an effort to force their children to attend school regularly. Experience

in this and other States indicates that when the authority is too localized the law is not apt to be enforced.

A special questionnaire was sent to county superintendents requesting information regarding the enforcement of the compulsory-attendance law. Of 38 who replied to this inquiry, 20 (over 50 per cent) reported no enforcement or only partial enforcement of the law outside of first-class districts. Very many letters were received from teachers and others from all parts of the State, even from counties in which the enrollment was reported greater than the census, stating that the compulsory attendance law is not enforced. It is probable, therefore, that while there are 4,845 children between the ages of 8 and 14 years in 33 counties reported definitely by county superintendents on their official reports as not in school, the actual number for these counties and for the whole State is much larger.

The compulsory-attendance law should specify the amount of absence necessary before enforcement proceedings are begun. It should be so specific that enrollment can not be confused with regular attendance. The enforcement should be in the hands of county truant officers instead of local district officers, and teachers should be required to notify the county superintendent of all unexplained continued absences.

High-school attendance.—There are three classes of high-schools in Colorado: County high schools, supported by the county by a special tax; union high schools, supported by school districts which unite for the purpose, assessed by special tax on the union territory or by prorating the expenses of the high school among the districts uniting; and district high schools, legal in first and second-class districts only, supported by special tax on the district. (Union high schools receive their quota of the regular apportionment funds from the State and county.) Many districts, even third-class districts, which can not afford a full four-year high school, offer one or two years of work above the eighth grade.

The data concerning high schools given in county superintendents' reports contain the same kind of errors pointed out previously for elementary attendance. For this reason the figures quoted here are from a survey of high schools in the State made by the University of Colorado in October, 1914. The county superintendents for 1914–15 report the total number of high schools as 138, or 65 fewer than the university survey.

County high schools	20
Union high schools	26
District high schools	201
Total number of high schools	247
Accredited high schools (by State university)	70
Four-year high schools not accredited	60
One, 2 or 3-year high schools	117
Total enrollment	16,487

The university bulletin also includes interesting data regarding the accessibility of high school facilities. Circles were inscribed about 4-year high schools with radii of 10 miles, 25 miles, and 50 miles. The table shows (1) the number of counties which lie wholly within the circles (column 1); (2) the approximate number of square miles included by them (column 2); and (3) the number of post offices included within them (column 3). Columns X and Y show in percentages the same data as 2 and 3, respectively.

TABLE 35.—*Per cent of area of State more than 10, 25, and 50 miles from high schools.*

	1 Entire counties.	2 Approximate number of square miles.	X Percentage of area of State.	3 Number of post offices.	Y Percentage of all post offices of the State.
Miles from accredited school:					
10 or less	1	15,535	14.9	262	30.2
25 or less	11	61,845	59.5	612	70.6
50 or less	46	90,180	86.8	802	92.5
Miles from 4-year school:					
10 or less	1	26,910	25.9	388	44.8
25 or less	16	79,535	76.5	756	87.2
50 or less	59	99,710	96	855	96.8

It is sufficiently serious that less than one-sixth of the area of the State is within 10 miles of an accredited high school and a trifle more than one-half within 25 miles. However, air-line distances give no conception of the real difficulties which children would have to overcome to reach high schools. Cross-country journeys are often impossible. So serious is the distance problem that a number of third-class districts maintain high schools offering one to four year courses in spite of the illegality of such action.

The most significant data obtained from county superintendents' reports in regard to high schools are those showing the variation of high-school attendance in the different counties.

TABLE 36.—*High-school enrollment.*

County.	Total number of high schools.	Total high-school enrollment.	Percentage high-school enrollment bears to total enrollment.
Adams	2	117	7.25
Alamosa	1	78	7.5
Arapahoe	2	208	8.75
Archuleta	1	44	5
Baca			
Bent	2	135	10.5
Boulder	4	1,140	16.75
Chaffee	2	219	12.75
Cheyenne	1	57	7.25
Clear Creek	2	127	15.5
Conejos		87	3.75
Costilla		38	3.5
Crowley	2	96	6.75
Custer			
Delta	10	616	15.25
Dolores			
Douglas	1	73	10.75
Eagle	1	21	2.75
Elbert	3	97	6.25
El Paso	5	1,407	15.75
Fremont	3	458	11
Garfield	5	292	11.875
Gilpin	1	66	12.75
Grand	1	12	3.25
Gunnison	1	109	8.75
Hinsdale	1	13	12
Huerfano	2	85	2.5
Jackson	1	21	13
Jefferson	3	290	9.75
Kiowa		20	2.125
Kit Carson	5	115	6.25
Lake	1	253	16.75
La Plata	1	324	12.25
Larimer	5	682	10.25
Las Animas	2	397	4.75
Lincoln	6	109	6.5
Logan	4	326	10.25
Mesa	8	696	13.25
Mineral	1	30	14.125
Moffat	1	47	12
Montezuma	3	80	6.125
Montrose	1	347	10.75
Morgan	2	335	9.75
Otero	4	610	11.875
Ouray	1	64	9.125
Park	3	28	9.75
Phillips	1	77	8.75
Pitkin	1	128	15.75
Prowers	4	195	6.875
Pueblo	2	1,112	11.25
Rio Blanco	1	53	9.5
Rio Grande	2	218	12.75
Routt	4	118	6.25
Saguache	2	57	4.25
San Juan	1	57	17.125
San Miguel	2	95	9.125
Sedgwick	1	84	8.875
Summit	1	38	11.5
Teller	2	369	14.5
Washington	1	40	2.25
Weld	7	725	6.875
Yuma	1	137	5.125
Total	138		

For the purpose of comparison among the counties the percentage of high-school enrollment to total enrollment is given. The table shows that six counties in the State have no high schools within their boundaries, and three report no children attending high schools. Eight counties have a high-school enrollment from 2 per cent to 4

per cent of the total enrollment, 21 reporting approximately 7 per cent or less. The highest enrollment (17 per cent) is in San Juan County, where the county-unit plan practically exists. The wide variation is probably due in large measure to the fact that many children live too far from high schools, but some of it must be ascribed to the fact that courses in high schools do not always appeal to the practical interest of high-school pupils and their parents. About one-half of the high schools in the State, as reported by the county superintendents, offer some kind of industrial work. The scope of this investigation does not include a study of the quality of these courses or the extent of their practical adaptation to the needs of the counties in which they are located. The per capita expense of high-school education varies as greatly as the percentage of attendance in the different counties. Eighty-five per cent of the total enrollment is in the 70 accredited schools; the remaining 15 per cent is scattered among 177 schools. The expense per student in the various high schools, as given in the university survey, varies from less than $40 to $358. The medians for the State are as follows: Four-year accredited, $67; nonaccredited four-year, $71; schools with less than four-year courses, $85.

County high schools do not solve the difficulty of distance. In a few instances branches of these high schools have been established to bring their facilities more nearly within reach of the school children. The following table shows percentage of territory and post offices within 10 and 25 miles of county high schools.

TABLE 37.—*Percentage of territory and post offices within 10 and 25 miles of county high schools.*[1]

County.	10 square miles of area.		25 square miles of area.	
	Percentage of area of county.	Percentage of post offices of county.	Percentage of area of county.	Percentage of post offices of county.
Bent	21	12.5	78	75.0
Cheyenne	18	30.0	69	60.0
Douglas	35	30.0	98	100.0
Eagle	20	12.5	72	75.0
Gunnison	10	9.0	48	73.0
Huerfano	[2] 20	[2] 55.0	70	91.0
Jackson	18	25.0	91	100.0
Logan	18	16.0	78	84.0
Mineral	32	100.0	83	100.0
Montrose [3]	20	20.0	59	53.0
Ouray	47	57.0	96	100.0
Phillips	46	75.0	100	100.0
Rio Blanco	10	12.5	46	62.5
Saguache	11	7.0	69	86.0
Sedgwick	35	67.0	100	100.0
Washington	13	8.0	59	68.0
Yuma	13	11.0	58	44.0

[1] From University of Colorado survey of high schools of the State.
[2] Huerfano County is entitled to a slightly better rating than the figures given, since the La Veta Union High School is not a part of the county unit.
[3] The full-fledged branch at Olathe was also made a center for a circle.

Summary.—The data on census, enrollment, and attendance as given in the Colorado reports are so inaccurate that it is not possible to determine the efficiency of the schools so far as their ability to hold the children at school regularly is concerned. It is apparent that there are far too many short terms and that the compulsory attendance law is not enforced in third-class districts; that an administrative system which would gather and compile adequate data is very essential in order that the true conditions may be set forth and that necessary information may be obtained when needed; and that high-school facilities should be made accessible to all the children in the State. It is recommended that the county board of education, acting through the county superintendent of schools, have charge of the enforcement of compulsory laws and that regular truancy officers be appointed; that all records and reports concerning county schools be required to be kept by the county superintendent; and that the county board have charge of the distribution and management of high schools.

(3) RETARDATION.

The figures on retardation were collected from reports received from the teachers of over 30,000 children in rural schools. They were collected in September, at the time when the children are entering rather than completing the grades in which they are listed. For this reason the children are given the advantage of about one year in the age classification as compared with data collected at the close of the school term. It is assumed that children enter school at 6 years of age and make one grade a year during the elementary schools. These children are classified as making normal progress, those one year under this age are classified as making rapid progress, and those one year over this age as making slow progress. The totals for the State by grades, compiled in this manner, are given in table 39; data compiled in a similar way, but allowing two years for the normal age, are given in table 40; and data by counties are given in table 41. A summary of the data for the State as compared with similar data for Denver, given in the recent Denver survey, is given below.

TABLE 38.—*Progress in Denver and in rural schools.*

	Denver.	Rural schools of State.
Total number	22,285	30,379
	Per cent.	*Per cent.*
Rapid progress	20	10
Normal	47	36
Slow progress	33	54

TABLE 39.—*Showing number and percentage of children under age, those making normal progress, those one year over age, and the total making slow progress.*

Grade.	Total.	Under age.		Normal progress.		1 year over age.		Total slow progress.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
1	6,224	686	11	3,224	52	1,408	23	2,314	37
2	3,942	328	8	1,621	41	1,071	27	1,993	51
3	3,788	374	10	1,417	37	1,056	28	1,997	53
4	3,933	450	11	1,231	32	1,099	28	2,252	57
5	3,569	356	10	1,091	31	945	27	2,122	59
6	3,296	415	13	859	26	932	28	2,022	61
7	2,874	264	10	814	28	873	30	1,796	62
8	2,753	268	10	679	25	813	30	1,806	65
Total	30,379	3,141	10	10,936	36	8,197	27	16,302	54

TABLE 40.—*Showing by grades number and percentages of school children who are under age, normal, or retarded for their respective grades.*

Grade.	Total.	Under age.		Normal (2 years.)[1]		Retarded.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
1	6,224	686	11	4,632	74	906	15
2	3,942	328	8	2,692	68	922	24
3	3,788	374	10	2,473	66	941	24
4	3,933	450	11	2,330	60	1,153	29
5	3,569	356	10	2,036	57	1,177	33
6	3,296	415	13	1,791	54	1,090	33
7	2,874	264	10	1,687	59	923	31
8	2,753	268	10	1,492	54	993	36
Total	30,379	3,141	10	19,133	63	8,105	27

[1] See preceding paragraph.

TABLE 41.—*Showing percentage of children under age, those making normal progress, one year over age, and total making slow progress.*

County.	Total children.	Percentage under age.	Percentage normal progress.	Percentage 1 year over age.	Percentage total slow progress.
Adams	1,311	11	39	27	50
Alamosa	54	9	26	26	65
Arapahoe	463	15	40	26	45
Archuleta	49	8	39	24	53
Baca					
Bent	462	10	36	25	54
Boulder	1,011	12	37	28	51
Chaffee	116	21	32	29	47
Cheyenne	482	10	39	25	51
Clear Creek	43	16	49	16	35
Conejos	171	2	32	30	66
Costilla	274	8	27	16	65
Crowley	670	10	36	29	54
Custer	223	8	33	30	59
Delta	375	13	31	32	56
Dolores	80	11	39	21	50
Douglas	382	13	40	26	47
Eagle	336	19	36	24	45
Elbert	851	10	33	26	57
El Paso	1,149	11	35	30	54
Fremont	1,021	5	39	32	56
Garfield	1,112	10	39	26	51

TABLE 41.—*Showing percentage of children under age, etc.*—Continued.

County.	Total children.	Percentage under age.	Percentage normal progress.	Percentage 1 year over age.	Percentage total slow progress.
Gilpin	248	14	44	25	42
Grand	174	10	36	30	54
Gunnison	957	9	43	26	48
Hinsdale	18	22	17	22	61
Huerfano	1,092	7	24	23	69
Jackson	63	10	32	29	58
Jefferson	626	12	41	26	47
Kiowa	737	13	28	30	59
Kit Carson	699	11	37	24	52
Lake	99	14	38	23	48
La Plata	595	10	35	24	55
Larimer	815	6	36	27	58
Las Animas	673	2	30	27	68
Lincoln	341	13	32	27	55
Logan	772	10	34	27	56
Mesa	429	13	37	23	50
Mineral					
Moffat					
Montezuma	700	10	36	29	54
Montrose	678	11	40	24	49
Morgan	654	13	38	27	49
Otero	873	9	44	26	47
Ouray	137	20	35	27	45
Park					
Phillips	316	11	36	27	53
Pitkin	55	22	38	24	40
Prowers					
Pueblo	502	11	32	29	57
Rio Blanco	171	6	31	32	63
Rio Grande	318	10	32	23	58
Routt	753	7	32	36	61
Saguache	334	9	48	30	43
San Juan	269	18	51	17	31
San Miguel					
Sedgwick	502	15	46	19	39
Summit	173	13	39	32	48
Teller	124	10	33	36	57
Washington	1,134	10	30	27	60
Weld	2,447	10	38	28	52
Yuma	1,266	8	32	27	60
Total	30,379	10	36	27	54

The seriousness of retardation in school is concerned with the results to the child himself and the financial loss to the State which comes from the added expense of repeating grades. Of these the first is more important. It is a serious thing for a child to fail to do a year's work in a year and to be forced thereby to go over the same ground the second time. Each failure in rural schools extends the course one year. If the pupil leaves school at a certain age, at the end of the compulsory period, for example, he misses the work of as many of the upper grades as he has had failures during his course. A large number of children making slow progress are in the first four grades. The actual cost of repetition increases the cost of education to the extent of the actual per capita cost multiplied by the number of children repeating. The actual per capita cost in Colorado varies from $35 to $118; if 10 children repeat a grade the loss varies from $350 to $1,180. Of the school children from whom reports were received, 54 per cent are one or more years over age. While not all of these have repeated a year or more during their school life, the majority have.

Table 41 shows that the seriousness of the retardation problem varies in the different counties; in some it is relatively unimportant but in others the percentage of slow pupils is very high. In some cases special schools or classes may be necessary. A course of study which includes vocational subjects, better qualified teachers, and better organized school work will largely overcome the difficulty in the majority of counties.

Colorado is not a State in which there is a large percentage of foreign born, and the slow progress can not be ascribed to any great extent to the presence of non-English-speaking children. Among the probable causes may be enumerated (1) lack of supervision, (2) unqualified teachers, (3) too many grades or too many pupils for one teacher and no time for individual work with slow pupils, (4) short terms and irregular attendance, (5) a course of study which does not provide for children who are more interested in things than in books. The remedy is to raise the standard of schools all along the line. Fewer pupils and fewer grades in charge of well-trained teachers with careful supervision would remedy much of the retardation evil. A course of study including vocational work would be of more interest and more practical value to so-called backward children.

If the school system were more highly centralized and placed on a professional basis, in charge of a superintendent assisted by a group of well-trained teachers, the retardation which is not eliminated under such a system could be made a subject of special study and satisfactory methods of dealing with it could then be worked out.

(4) TEXTBOOKS.

The Colorado law provides that the purchase of free textbooks in any school district shall be at the discretion of the qualified electors. The board of directors is required to furnish books free to all children when instructed by the voters to do so, and is not permitted to change an adopted text oftener than once in four years nor to provide more than one kind of text of the same grade or branch of study in the same department of a school. Fortunately the latter part of this provision is not generally observed in the larger districts, although reports from the teachers indicate that, whether from this or some other reason, very few of the rural schools are provided with supplementary material in reading, geography, and the other branches.

Approximately three-fourths of the children of the State are furnished with textbooks at the expense of the districts in which they live. All cities with special superintendents supply books. In two counties—San Juan and Sedgwick—all districts furnish books and

in 14 additional counties the free-textbook plan is adopted by so many districts that it is practically county wide. In 34 counties from one-fourth to one-half furnish free textbooks; 11 counties report that none are furnished. Of the 1,846 districts in the State, 845, or approximately 45 per cent, are reported as among those furnishing books at public expense. However, these enroll approximately 75 per cent of the children.

Kind of books.—In the many letters received from teachers throughout the State there is almost universal complaint in regard to the failure of school directors in rural districts to supply books promptly and of a proper kind. On the other hand, school directors complain that every teacher wants a different kind of book. An examination of the county superintendent's reports confirms both of these statements. Many of the books being used are entirely out of date and unsuited to the school work of the locality in which they are used. From the list of books enumerated in the county superintendents' reports it appears that at least 10 counties have practical uniformity for the county. In the remaining 52 counties there is a wide variety among the counties themselves and among the districts within the various counties. In a list of the books used in the State as a whole nearly every textbook published is included. While too much uniformity may not be desirable, some method of selecting and delivering textbooks which would insure more appropriate selection and more prompt delivery and such uniformity as is consistent with the varied community and industrial conditions, at least within the county, should be adopted. The number of different texts used in the State, as reported by the county superintendents (omitting Denver) is as follows:

Textbooks:	
Reading	36
Spelling	4
Arithmetic	38
Grammar	29
History	21
Geography	20
Physiology	25
System: Penmanship	20

The free textbook law should be made mandatory instead of optional, in order that all children in the State may be furnished with proper books. Legislation should be passed requiring all publishers who wish to do business in the State to submit to the State board samples of books with the net price list; to sign a contract agreeing to supply books to school authorities at the prices quoted, which shall be as low as in other States under similar conditions;

and to file a bond of from $2,000 to $20,000, to be forfeited in case the contract is violated. The State board of education should publish a list of books the publishers of which have complied with the law, with net prices for the convenience of school authorities in making their selections. The State board should omit from the published lists any undesirable books, even if the publishers have complied with the State law relative to filing samples, price list, and bond.

(5) ELEMENTARY COURSE OF STUDY.

The course of study now in use was issued in September, 1914, and is, according to the introduction, a revised edition of the course used during the three years preceding the present issue, and a "composite of the viewpoints of the school people of Colorado."

From the point of view of administration the most important considerations of a State course are that it should help to make for better teaching; that it should be adapted to the purpose for which it is intended; and that it should be a unified whole. While the order of topics and the special methods of teaching can be left largely to the teacher, the selection of topics which are most important and best adapted to the purpose for which the course is intended and the organization of the subject matter around them are matters for the educational expert and not for the teacher. Again, the makers of a course of study and those who are to teach it must be in harmony as to the purposes of teaching particular subjects before deciding upon the topics to teach, the books and equipment to adopt, and the method and amount of time to use. Therefore in the published course the aims and purposes should be clearly set forth and teaching methods suggested. Otherwise a teacher may as well "follow the textbook" as the course of study.

Adaptation.—It is assumed that a State course of study in a State like Colorado is preeminently for use in the rural districts and one-teacher schools, since the school districts of the towns and cities of over 1,000 school population are independent of State or county administration. It should therefore be based primarily on the experiences of the children who attend one-teacher schools, and it should be adapted to the organization, grading, and length of term of one-teacher schools. Except for the introduction of a few subjects, such as road making and agriculture, there are no indications that the Colorado course is intended for rural schools. There is no discrimination made between the needs of rural and city districts. No effort is made to base the subject matter taught in the school on the every-day life of the children in and out of school. This is apparent in nearly every subject. For example, language,

more than any other school subject, may be directly correlated with actual use. In its teaching, more than in that of any other subject, the motive is supplied without great effort on the teacher's part. The difficulty in language teaching is rather to keep up to the present needs than to anticipate them, as is sometimes necessary in arithmetic and history; yet this method of teaching language—that is, basing the work on the every-day needs rather than following the outline or the textbook—is neither emphasized nor referred to in the course. Under present conditions in one-teacher schools agriculture, cooking and sewing, and probably manual training could be taught best in connection with club work, utilizing the out-of-school time on the farm and in the home. The work given could then be more nearly based on farm and home work, and therefore correlated with life, and could be better organized as to time of teaching particular items. For example, the wisdom of teaching plant propagation in December, when in a climate like that of Colorado neither observation nor correlation with home work is possible, is doubtful. Teaching "packing eggs for winter use" in March may be similarly characterized.

Probably but two subjects—music and penmanship—have in view the organization of a one-teacher school. To cover 20 subjects, each of which is outlined for a full nine-month school year, is practically impossible outside of a well-graded school. Agriculture, nature study, cooking, sewing, manual training, road making, and poultry culture, civics, scientific temperance, etc., are all excellent in themselves, but should be correlated with the "three R's," if they are to be taught satisfactorily in a one-teacher school. For example, much of the geography and history, especially in the lower grades, even as presented in the present course, could be given as language just as well as geography or history; the Colorado history and Colorado geography could be combined as one subject; the course in geography includes much that is really agriculture and nature study and duplicates the outlines for these subjects.

Elsewhere in this report the average rural school term is given as seven months. Many schools have much shorter terms. There are in the State nearly 1,800 one-teacher rural schools. In many of these all the eight grades are taught, and in a majority at least five or six grades. If the course of study were followed in such schools, arranged as it is for nine-month terms, two years for each grade would be necessary. If all the subjects given were taught as outlined—that is, on a basis of eight classes in practically every subject—less than *five minutes* would be available for each recitation, and individual pupils would have very little of the teacher's time in each subject daily.

In addition to the correlation of subjects here suggested, there are methods of alternating and combining classes particularly applicable in one-teacher schools. Definite ideas of such methods, together with the outline of the subjects themselves and added suggestions as to programs for study and recitation, should be given in a State course of study for one-teacher schools. It is far easier for the teacher to enlarge on the amount of subject matter given in the course than it is for her to cut it down. Hence the selecting of topics must be done for the teacher when it is impossible to make separate outlines for long and for short term schools. A course of study for a State like Colorado should make definite provision for short-term schools, since the difficult matter for rural teachers, particularly untrained ones (of which there are 58 per cent in the State), is to make such an organization for themselves.

Unity.—The Colorado course includes 20 different subjects. An examination of the course fails to reveal any unity, continuity, or correlation among these different branches. It seems apparent that a course in each subject was arranged by one person or one committee of persons working independently of all the others. There is no relationship or correlation expressed, and none can be found on examination, even among the English subjects—reading, language, and spelling. These overlap frequently in subject matter, but this overlapping is apparently unintentional and does not consider economy of time by combining or alternating the affiliated subjects. In some subjects, as, for example, history, an effort is made to present a general aim of history study, and some stress is laid upon method. The outlines in spelling, reading, and music have stressed the method side, while in arithmetic, language, and agriculture, and in geography, with the exception of a few general hints, practically nothing is said about methods of presentation. The outlines in language are sensible and reasonably easy as to amount of formal grammar presented, while geography and history are very inclusive, containing many things difficult enough for high-school work. The course in language assumes that the teacher has few reference books, and specifically states that a number of poems (in reality far too few) are included in order that teachers may make such selection from those given as are best adapted to their needs, while history and geography assume not a paucity of reference and outside reading, but a variety of reference material rarely available in a rural school. These examples will serve to illustrate the evidence to the effect that there is no unity of ideas, purposes, or methods underlying the whole course. Each contributor stresses the things that seem important to him, and apparently there is little harmony of opinion as to these.

To summarize, it may be said that a satisfactory State course of study to meet the conditions indicated is difficult to formulate. It

ought not to be expected that it can be done by anyone except a professional officer with teaching experience, and one who has made a special study of the fundamental principles of education and of the values of different subjects in the educational process. The development of the final course should extend over several years of trials and adjustments.

(6) TEACHERS.

Of the 3,627 teachers in Colorado outside of cities with special superintendents to whom questionnaires were sent concerning their education, professional training, and teaching experience, only 1,563, or 43 per cent of the number, replied. Such an attitude toward legitimate requests from an investigating committee for necessary information results in a large measure from the fact that there is no real school system and no centralization of educational authority within the State.

Number reports sent out	3,627
Number reports received	1,563
Per cent answering	43
Average age of teachers	25
Number teaching in village schools	492
Number teaching in one-teacher rural schools	1,071
Average number grades in one-teacher schools	5.5
Average total enrollment in one-teacher schools	17
Average teaching experience, in months	28
Average salary	$563
Average amount paid for board per month	$19
Per cent with satisfactory boarding places	87
Living inside district in which teaching	1,384
Living outside district in which teaching	182
Living at home	489

The averages given in this report and in the tables submitted are probably better than actual conditions warrant, not only because naturally a larger per cent of the better-qualified teachers replied, as with other questionnaires, but for the added reason that the forms intended only for teachers in the schools with no special superintendents really reached many towns with special supervision in which salaries, qualifications of teachers, etc., are better than in rural schools. For example, San Juan County is included in the averages given, though the salaries are all above $1,000, and all of the teachers have some training of college grade. Of the 1,563 teachers who replied 1,071 were in rural one-teacher schools and 492 in villages.

Qualifications.—Teaching qualifications are governed by general and special education, professional training, experience, and, in a general way, age, to the extent, at least, that one should be neither too immature nor too old for good service. In two counties the average age of teachers is 19 years, indicating that some very young

teachers are employed. In no county is the average age greater than 34 years; the average for the State is 25 years. In one county all of the teachers replying reported having no previous experience. In several the average experience is less than two years. For the State the average is three years—a little less than the average experience for rural teachers in the United States as a whole.

Each year States and cities in larger numbers are raising their standards. At the present time a minimum standard in most cities in the United States is six years of education (including professional subjects) above the elementary school for elementary teachers and eight years above the elementary school for high-school teachers. Of the teachers replying in Colorado 23 per cent have a general education of less than four years above the elementary school, or the equivalent of a high-school course.

Education of 1,563 rural teachers.

	Per cent.
With elementary education only	7
With some secondary education, but not four years	16
With four years secondary education	35
With some higher education, but not four years	34
With four years higher education	8

In addition to those teachers who have elementary education only and some secondary training, but not the full four years necessary for high-school graduation, 35 per cent have graduated from high school but have had no education beyond it. This 35 per cent with the 23 per cent who have had less than four years above the elementary school, or 58 per cent of the total number replying, represent the body of teachers who have no professional training and only four years or less of general education above the elementary grades. Colorado has a much larger percentage of untrained teachers than the United States as a whole; a recent investigation by the Bureau of Education indicates that about one-third of the total number of rural teachers are entirely without professional training. Colorado's 58 per cent would be higher if rural teachers only were included. Thirty-four per cent of the teachers replying have some training, varying from one to three years, above high-school grade. Eight per cent have four years of higher education, or eight years above the elementary school. It is reasonably safe to say that with few exceptions these teachers lack the experience which makes them eligible to teach in village or city schools, and will remain in the country only long enough to make up for this deficiency.

Certification.—Judging from the reports received by the bureau the majority of teachers in rural schools have second-grade certificates. Among the teachers replying there were more than five times as many having first as third grade certificates and six times as

many having second as third grade certificates. Of the total number of certificates issued by the county superintendents in 1915–16 (omitting Denver), approximately 60 per cent were of second, 20 per cent of first, and 20 per cent of third grade. Of the teachers replying to the bureau, certificates were held as follows: First-grade county, 561, or 36 per cent; second-grade county, 609, or 39 per cent; third-grade county, 106, or 7 per cent; State certificate, 277, or 17 per cent; no certificates, 10. There were between 600 and 700 third-grade certificates issued in Colorado in 1915–16, of which only 106 were held by teachers replying to questionnaires. These figures indicate that only a small percentage of the teachers holding third-grade certificates who are actually employed in the State replied to the questionnaire; that the teachers who did reply were above the average; and that the totals given here are better than they would be if *all* the teachers employed were included.

Neither high-school education nor professional training is necessary to receive a first-grade Colorado certificate. The examination for all three grades of certificates is the same. The subjects included are the elementary branches only, with the exception of elementary science and theory and practice of teaching. First-grade certificates represent an examination average of 90 per cent or more, with no branch below 70 per cent; second-grade an examination average of 80 per cent or more, with no branch below 65 per cent; and third grade an examination average of 75 per cent or more, with no branch below 60 per cent. The general average may be increased by 5 per cent for attendance at a teachers' institute. Twelve months' experience is required for a first-grade certificate, but no experience is required for certificates of second or third grade.

Two hundred and seventy-seven teachers holding State certificates replied to the bureau's questionnaire. In this group are included those holding certificates recommended by the State board of examiners and those having diplomas from the two teacher-training institutions of the State. These certificates and diplomas represent a minimum of six years' training above the elementary grades. The 277 teachers (17 per cent of the total) who hold these certificates include all who have any *worthy amount* of professional training. They are probably the only ones eligible to teach in city schools when they have the necessary experience. In other words, the teaching body in rural schools is made up largely of persons who, because of lack of training, are not eligible to teach in city schools, and of those who, while having the necessary education, are using the country schools as training schools in which to receive the experience necessary for eligibility to city school work. No greater injustice could be done to rural communities who pay their proportional share of maintaining normal schools for the purpose of training

teachers but receive in return practically nothing for the money thus expended. If the limited number of teachers prepared and the kind of training given by the normal schools conspire to deprive the rural communities of their quota of trained teachers, universal taxation for the support of these schools is not justified.

Salary.—The average salary of the teachers replying is $563 per year; the average term, 8 months; or about $70 per school month and $48 per calendar month if counted on the basis of 12 months. This is higher than the total average for the State as reported by the county superintendents, which is $60. In some counties a few salaries as low as $30 per school month are paid. The length of term in rural districts also varies from 2 to 10 months, as stated in the section on attendance.

Professional spirit.—The interest which rural teachers take in self-improvement may be judged somewhat from attendance at institutes and summer schools and from the amount of professional reading done. A large number attend institutes as a preparation for teachers' examinations and for the 5 per cent allowed on examination grades because of this attendance. A worthy desire for improvement is shown by the 26 per cent who have gone to summer school and by the 57 per cent who have read professional books.

The classroom.—No investigation of classroom instruction was made by the Bureau of Education, but some idea of schoolroom organization may be obtained from the replies received. The prevailing number of grades taught in rural schools in the State is six or seven; some schools have few pupils and only three or four grades, others have the whole number, or eight grades. The average enrollment in the schools taught by the teachers replying is 17, varying from 8 to 30 in the different counties. The average number of recitations conducted daily in the schools of the several counties varies from 16 to 29, with an average of 22 for all counties. In single schools the number of recitations conducted in many cases reported was as high as 37. If this be interpreted in terms of the teacher's time per recitation, it means: If 37 recitations are conducted in a school day of 5½ hours, or 330 minutes (exclusive of noon hour and recesses), the teacher can devote an average of eight minutes to each class, provided not more than half a minute is consumed in passing to and from classes and that no time is used for opening exercises or rest periods. If 22 recitations are conducted daily, the recitation time averages 15 minutes. If first and second grade classes be excepted, no recitation can be properly conducted in 15 minutes. There is apparently little real effort toward alternation or combination of classes.

Living conditions.—Nearly all of the teachers reporting live or board within the district in which they teach. As a rule they have

boarding places reasonably satisfactory, though about 13 per cent report very objectionable living conditions.

A few teachers' cottages were reported. Teachers' living expenses vary from $16 to $35 per month, the average being $19.

A large number of letters accompanied the replies to questions submitted explaining the difficulty of securing privacy and heated bedrooms. Even teachers who reported boarding places reasonably satisfactory are not well enough contented with living and salary to be willing to remain in the country. Of the teachers reporting, 61 per cent are teaching their first year in the district, 22 their second year, and 16 per cent have taught more than two years. An itinerant teaching force can not accomplish satisfactory results nor be organized into a body working systematically with continuity of purpose or unity of aim.

The most important consideration in the efficiency of any school is the teacher. This is particularly true in rural schools because the entire responsibility of organization, management, course of study, selection of books, etc., is likely to rest on the teacher. In cities where principals and supervisors make frequent visits and where there is an organized system, there is a far better chance of success for the untrained and inexperienced teachers than in the rural schools where there are none of these advantages. Colorado needs to insist on better trained teachers, longer tenure, better living conditions, and better salaries if good teachers are to be secured and retained or if the educational opportunities furnished in rural schools are to approximate those furnished in the larger city districts.

(7) TEACHER TRAINING.

The committee has pointed out in the preceding section that 58 per cent of the teachers replying to the bureau's questionnaire are entirely untrained and that 83 per cent have not had the equivalent of the six years above elementary school prescribed for graduation from the State normal school and teachers' college. As the only compensation for this deficiency and as the sole means given by all but five of the county superintendents for supplying training for teachers in service, the State provides summer normal institutes. These are attended by rural school teachers almost exclusively and very largely by untrained teachers working for higher grade certificates. The State may be credited with furnishing for the training of teachers for rural schools the 13 summer institutes and the rural departments of the teachers' college and State normal school. The institutes are treated more at length because their conduct and management are among the administrative duties of the State and county school officials and because a study of the teacher-training institutions was not included in the scope of this report.

Institutes.—Colorado is divided into 13 institute districts, each containing from 3 to 11 counties. In each district an institute, usually two weeks in length, is held under the management of a committee of three county superintendents elected by the superintendents of all the counties in the district, at a point designated by the committee. The total cost of institutes held in Colorado in 1916 must have approached $15,000. The cost of nine reporting was $9,080. The money is obtained from teachers' examination and certificate renewal fees (apportioned among the institute districts), institute attendance fees, and the county general fund of the counties represented in the registration.

There is a very grave question as to the advisability of expending this sum for teachers' institutes. Like many other school arrangements in Colorado, the institutes were established to meet pioneer conditions at a time when the value of professional training was underestimated and a short course to prepare prospective applicants for the regular teachers' examinations was considered a necessity. What the State now needs is increased facilities for professional education and provision for training teachers in service. The money expended would be far more profitably spent if institutes were replaced by two or three day teachers' meetings in every county and six-week summer schools located in accessible places.

For several years the efficiency of teachers' institutes has been the subject of discussion and consideration among educators in the State. The minutes of the board of examiners show that they have found it expedient to impress instructors with the fact that institutes should be confined to professional and inspirational work and not devoted to preparation for teachers' examinations. A regular teachers' examination occurs in August, following closely the institute session, and there is a good deal of pressure on instructors for reviews which help applicants to pass it.

The Colorado law requires that every institute instructor must have a certificate granted by the State board of examiners. The minutes of the board are not sufficiently complete to indicate the kind of qualifications required. Each application is acted upon as an individual case. In a few instances the list of names of instructors for 1916 contained members of the faculty of the agricultural college, the State university, and normal school; but city superintendents and school principals and grade teachers from the larger cities predominate among the instructors. There is no evidence to show that special training for rural-school work or rural-school experience is demanded from instructors, though rural teachers only attend.

The number of institute certificates granted for the years from 1910 to 1916 are as follows:[1]

[1] Not exact—some renewals, some omissions.

1909–10 79
1911–12 100
1913–14 217
1915–16 150

Data from questionnaires sent to the secretaries of the 13 institute districts are shown in Table 42. The subjects taught nearly always include reviews in the common branches, pedagogy, and primary work. The large institutes engage a great many instructors; the small ones employ fewer instructors, but cover practically the same ground. A large number of the teachers who attend are inexperienced, and are preparing to take the regular examination which follows the institute. A relatively small number, from 10 per cent to 38 per cent, have secured first-grade certificates, and so can be considered as attending for professional help rather than for preparation for teachers' examination or for the 5 per cent premium, which is added to examination grades for attendance. A large number of the attendants are persons, prospective teachers and others, who reside in the town in which the institute is held. Of over 2,000 attending the reported institutes, 830 paid board while attending and paid railroad or stage fare to reach the place of attendance, while 1,230 did not.

It is recommended that the summer normal institute be abolished and six-week summer schools substituted at five or more points in the State selected because of convenience of location. The amount now spent on institutes would probably support the suggested number of summer schools—at least very little in addition would be needed.

TABLE 42.—*Data relating to institutes.*[1]

District No.	Enrollment.	Paying board and railroad fare.	Total cost.	Number of subjects.	Number of instructors.	Per cent no experience.	Per cent taking August examinations.	Per cent having higher grade certificates.
1	295	200	$1,225	6	6	40	45	10
3	567	9	1,861	11	12	25	35	20
4	106	100	651	10	6	10	12	38
5	522	250	1,907	9	11	20	50	25
6	128	65	724	10	4	36	50	15
7	113	66	777	12	7	27	14	35
10	132	65	736	13	5	25	50	30
11	95	25	617	11	4	20	16	20
13	102	50	582	12	4	25	.....	16
Total	2,060	830	9,080	.....	59	.....	.....	.....
Average	229	.....	.....	10	.....	25⅓	34	23

[1] No replies were received from secretaries of institute districts Nos. 2, 8, and 12 (E. D. Webb, Boulder; Miss Mary Lake, Lamar; Mrs. E. Hinton, Grand Junction). A reply was received from Elmore Floyd, Trinidad, secretary of district 9, too late to be included.

Teacher training.—The State maintains two institutions for the training of teachers, one located within convenient reach of the counties in the northeastern portion of the State, the other within convenient reach of adjacent counties in the southwestern portion of the State. The remaining counties of the State are so far from either of these institutions that the expense of traveling, added to

the necessity of paying living expenses away from home, makes attendance prohibitive to a large number of young people who desire to prepare themselves to be teachers.

In 1916 the State teachers' college and the State normal school graduated 337 persons from the regular two-year course. There were 145 additional graduates from the three, four, or five year courses at the teachers' college. The State College of Agriculture maintains a department for training teachers in which there are enrolled in the fall of 1916 about 30 student teachers. There were 30 graduates of the college of education of the university in 1916, and 25 other graduates of the university with enough work in education to entitle them to State certificates. Altogether the State gave complete courses to approximately 575 teachers in 1916. Others, of course, took partial courses. Over 6,000 teachers are employed.

The majority of the trained teachers go into the cities and towns with special superintendents (see section on teachers). This is due partly to superior attractions of city positions, but also to the fact that few teachers are trained for rural-school work. The normal school at Gunnison and the teachers' college at Greeley both maintain departments for training rural teachers, but the number so trained at present is insignificant compared to the number needed. Institutes were established for the purpose of bringing teacher-training facilities within reach of people in the various localities, but the training offered is entirely inadequate for the purpose. It is clear that one of the most pressing needs of the State is an extension of facilities for training teachers for rural schools either through the establishment of additional normal schools under the control of the board now in charge of the two teacher-training institutions, or through branches of these schools so located that they shall be within reach of the portions of the State now remotely located from either the teachers' college or the normal school. Probably one normal school or branch normal school, well located in the thickly populated portion of the western slope, and an additional one located in the southeastern part of the State would, with the establishment of the summer-school facilities above recommended, be sufficient for immediate needs.

The attitude of educational authorities on this question is indicated by the following, quoted from the report of the survey of higher education in the State of North Dakota (Education Bulletin, 1916, No. 27):

> If there is need for well-educated, well-trained, and experienced teachers in the schools of one community there is equal need for such teachers in all communities. If the State taxes all the property and all the people of the State for the entire or partial support of all the schools of the State to the end that the State may have intelligent, virtuous, self-supporting citizens, then the State must require every community to put into its schools teachers who are

prepared to do their work in such way that the money raised through the taxes of the people of the State may not be wasted and the State defrauded in the character of its citizenship.

If the people of all communities contribute to the support of the normal schools and other schools in which the teachers are prepared, then they have a right to demand that teachers be prepared in such way and in such numbers that there may be properly prepared teachers for the schools of each and every community and that no community may find it necessary to fill its schools with incompetent teachers at the risk of the loss of their money and the time and opportunity of their children. The State that assumes the responsibility of educating all its children at public expense must assume the accompanying responsibilities of determining standards of preparation for its teachers and of providing the means and opportunity of preparation for all the teachers needed in all its schools to the extent that they are not prepared elsewhere and by other means. Otherwise, the State is open to the charges of injustice and folly.

(8) SUPERVISION.

The data used in this section were obtained from a special questionnaire sent out from the Bureau of Education. Of the 62 counties in the State, omitting Denver, 40 superintendents replied. Repeated requests were sent to the other 22, one replied, but too late for use in this report. The 40 who replied include those known to be the most capable superintendents in the State. This is to be expected as only the best qualified have that professional interest which prompts them to comply with requests of this nature.

Discussion regarding the necessity for adequate supervision of rural schools is not within the province of this report. It is sufficient to say that modern school practice assumes it to be a necessity, that practically all of the towns in the United States of 2,500 population or over have provided it, and that many of the progressive States in the Union are making provision to extend facilities for supervision to the rural communities. Colorado is particularly in need of adequate supervision for its country schools, since there are so many one-teacher schools and inexperienced and untrained teachers. The 40 superintendents report 1,436 one-teacher buildings and but 21 consolidated schools. The one-teacher rural school is difficult to organize, even when trained and experienced teachers are in charge. The inexperienced and untrained teachers need professional aid and instruction if they are to conduct their schools successfully. Such supervision as these schools now receive is given by the county superintendents. No assistant superintendents are employed in the State. Since the laws governing the election, salary powers, and duties of county superintendents were enacted, educational ideals and practice have changed materially; and while these laws may have answered the purposes for which they were made at the time they were made, they are no longer adequate. Education has become an established profession. The supervisor must be an educator, not a politician, and must be selected because of professional fitness.

Education and training of county superintendents.—The education, training, experience, tenure, and ability of the superintendents determine the efficiency of the supervision, if the territory and the number of teachers are small enough to make real supervision possible. The salary and manner of selection determine the qualifications which can reasonably be expected of supervisors. Trained and capable supervisors as a rule insist on being engaged on the basis of professional fitness and must be assured of tenure during good service and a salary commensurate with the service rendered. When the new salary schedule goes into effect after January, 1917, 20 counties will pay their superintendents an annual salary of $1,500 or over. The remaining 42 counties, which pay from $1,100 down to $100 annually, with a two-year term, can not expect, except accidentally, to obtain good superintendents. Even the 20 counties which pay $1,500 or more must extend the tenure and remove the position from politics if efficient service is to be obtained.

TABLE 43.—*Education of county superintendent above the elementary school, and teaching experience.*

County.	Secondary education.				Higher education.				Total.	Total number years teaching experience.
	1 year.	2 years.	3 years.	4 years.	1 year.	2 years.	3 years.	4 years.		
1				×					4	0
2				×		×			6	7
3				×		×			6	11
4				×				×	8	20
5				×		×			6	7
6				×					4	0
7				×				×	8	4
8				×					4	12
9				×				×	8	16
10				×		×			6	5
11				×			×		7	10
12				×				×	8	12
13				×		×			6	9
14				×					4	8
15				×				×	8	10
16			×						3	12
17				×		×			6	6
18				×		×			6	5
19		×							2	0
20				×				×	8	8
21				×				×	8	44
22				×					4	13
23				×				×	8	2
24				×		×			6	12
25				×		×			6	0
26				×		×			6	13
27				×					4	16
28				×					4	19
29		×							2	9
30				×		×			6	7
31				×					4	8
32									0	0
33				×		×			6	13
34				×					4	5
35				×				×	8	6
36				×		×			6	13
37				×				×	8	15
38				×					4	7
39				×					4	5
40				×					4	17

The educational qualifications of the 40 superintendents who reported to the Bureau of Education are given in Table 43. A summary follows:

Summary of Table 43.

Attended elementary school only	1
Attended secondary school:	
1 year only	0
2 years only	2
3 years only	1
4 years only	12
Higher education:	
1 year only	0
2 years only	13
3 years only	1
4 or more years	10
Total	40

Seven of these 40 have an A. B. degree.

Seven others have the degree of Pd. B., which is given by the State teachers college for two years above a standard high-school course.

No teaching experience	5
Less than 5 years' teaching experience	2
5 years' teaching experience	4
More than 5 years' teaching experience	29

Eight years of education above the eighth grade, including professional training, is the minimum of educational requirements for superintendents in practically every city of 2,500 or over in the United States, including those in Colorado. The University of Colorado does not accredit high schools unless the teachers engaged have eight years of training above the elementary schools, or its equivalent. It is difficult to understand why persons with less training are selected as county superintendents. The position is surely of as much importance as the two mentioned, and the work much more difficult. The above summary shows, however, that 40 per cent of the superintendents reporting have only the equivalent of a high-school education or less, four years or less above the elementary schools.

Of the 40 superintendents reporting, 5 had some previous experience of a supervisory nature, 35 had some teaching experience, and 5 had no teaching experience of any nature when they assumed their duties as county superintendents. The tenure of office for all county superintendents in the State has been given. (See p. 28.) The summary below shows the tenure for the 40 reporting on the special inquiry. It may be noted that the superintendents not replying are nearly all serving their first term.

TABLE 44.—*Tenure of superintendents.*

	Number.	Per cent.
Serving first term	22	55
Serving second term	15	37½
Serving third term	2	5
Serving fourth term	1	2½
Total	40	100

Expenditure for county supervision.—The salaries of the county superintendents reporting varies from $100 to $2,800 and averages $1,027 per year. The mileage allowed varies from nothing to $300. The average total expenditure of the county superintendents' offices in the State, including salary, mileage, and current expenses, amounts to $1,433. (See Table 45.) An effort was made to compare this with the total expenditure of other county offices. Satisfactory data could not be obtained. The average expenditure of the county clerks' offices for the years 1913 and 1914, taken from the auditor's report and averaged for the first 14 counties given in that report, was $3,770. This omits Denver but includes some of the smaller counties, one at least in which the total expenditure for the county superintendent's office is but $115. It seems probable that frugality in the management of county offices is practiced chiefly in making the allowance for the county superintendent of schools. Five counties allow no traveling expenses, although the superintendent in one of these counties reports traveling 8,000 miles at her own expense. Another superintendent traveled 4,000 to visit each teacher once. Some of the very large counties are among the most densely populated; for example, Weld, with an area of 4,000 square miles, has 300 teachers under the supervision of the county superintendent in addition to those in first-class districts with superintendents.

Eight of the 40 superintendents reporting do not give their full time to their work as county superintendents. The salary does not justify it. Those giving full time visit their schools once or twice a year, and in a few small counties four or more visits are possible. These superintendents spend from one to three hours in each visit. They report in some cases as high as 90 per cent of the teachers teaching for the first time in the districts in which they are employed, the average for the 40 counties being 50 per cent. Sixteen per cent of all the teachers in these counties have no previous experience. When it is remembered that the majority of these teachers (1,436) are teaching all or nearly all of the elementary grades, and more than one-half of them are new to the particular district in which they are teaching, and that 16 per cent are entirely inexperienced, the

seriousness of the supervisory problem may be realized. It should also be remembered that these teachers are selected by a great many different directors, whose idea of a teacher's qualifications are by no means unified or consistent. The reports from the county superintendents show that few directors consult them in regard to the teachers employed. In many counties the superintendent is not consulted at all, but the teachers, in the words of a county superintendent, are "hired mostly on pull." (See Table 46.)

TABLE 45.—*Amount expended for county superintendent's office.*

County.	Tenure (years).	Annual salary.	Travel allowance.	Total annual expenditure.[1]
Adams	4	$1,100	$300	$1,700
Alamosa	2	1,100	240	1,340
Bent	2	1,100	300	1,400
Chaffee	2	1,100	300	1,500
Cheyenne	2	800	300	1,100
Conejos	2	1,200	300	1,650
Crowley	2	800	300	1,200
Custer	2	800	.....	820
Delta	2	1,200	300	1,520
Dolores	4	100	50	150
Douglas	2	1,100	300	.....
Eagle	2	1,100	300	1,400
Elbert	4	1,100	300	1,600
El Paso	2	2,800	.....	4,200
Garfield	7	1,200	300	1,600
Grand	2	500	150	700
Hinsdale	2	100	.....	115
Kiowa	4	500	300	920
Lake	4	1,200	200	1,500
La Plata	4	1,100	200	1,300
Larimer	4	1,200	300	1,950
Logan	2	800	300	1,400
Mesa	2	1,200	150	1,550
Mineral	4	500	.....	550
Montezuma	4	800	300	1,200
Montrose	2	1,200	300	1,700
Otero	8	1,200	300	1,915
Ouray	2	1,100	200	1,500
Park	4	1,100	300	1,500
Pitkin	4	1,100	300	1,450
Pueblo	2	2,000	.....	2,000
Rio Blanco	1	500	200	700
Rio Grande	6	1,100	150	1,300
Saguache	4	1,100	200	1,400
San Juan	4	500	15	548
Sedgwick	2	500	300	800
Summit	4	500	85	600
Teller	2	2,000	.....	2,500
Weld	4	2,000	.....	2,800
Yuma	2	800	300	1,250

[1] For all purposes, including salaries, supplies, and travel allowance.

NOTE.—One full-time assistant in El Paso County, salary $1,200 per annum, and part-time assistants in Larimer and Otero Counties, salaries $225 and $240, respectively.

It is to be expected that county superintendents selected as they are in Colorado, with a tenure so uncertain, and with so slight a premium placed upon educational qualification for their work, would have very little idea of the necessity for training teachers in service. Only 5 of the 40 superintendents report that they have made any arrangements of value for this phase of teacher training. These

five have monthly teachers' meetings or group study sections. The size of the territory and the expense of traveling sometimes make such arrangements difficult, but resourceful superintendents find other practicable ways of meeting the problem.

TABLE 46.—*Concerning the amount of work involved in county supervision.*

County.	Total number of buildings in supervisory territory.	One-teacher buildings.	Total number of teachers.	Per cent of teachers teaching first time in the district.	Per cent county superintendent's time given to supervision.	Average number of visits per year.
Adams	67	54	99	45	33	2
Alamosa	20	16	24	50	30	3
Bent	34	26	38	70	25	2
Chaffee	30	26	35	20	33	3
Cheyenne	60	58	68	33	33	1½
Conejos	30	21	60	10	16	2
Crowley	25	19	53	40	50	3
Custer	22	21	18	75	50	3
Delta	37	28	50	48	25	2
Dolores	11	10	12	88	5	1
Douglas	37	32	47	60	75	4
Eagle	36	16	40	50	33	3
Elbert	91	81	102	63	50	2
El Paso	115	105	135	58	50	1
Garfield	54	39	84	40	50	2
Grand	19	15	23	90	25	2
Hinsdale	6	4	9	33	33	3
Kiowa	55	51	70	56	75	1
Lake	12	9	12	8	33	4
La Plata	48	35	66	54	28	2½
Larimer	62	50	100	65	33	2
Logan	96	85	158	40	33	1
Mesa	65	25	200	25	50	2
Mineral	9	3	10	.....	75	9
Montezuma	37	30	61	64	50	3
Montrose	33	19	55	56	20	2
Otero	30	19	45	53	33	2½
Ouray	18	15	19	63	20	4
Park	35	33	37	50	33	4
Pitkin	20	14	19	50	25	3
Pueblo	73	45	98	75	25	1
Rio Blanco	30	28	33	.....	25	2
Rio Grande	25	25	26	50	50	3
Saguache	35	28	55	60	25	3
San Juan	4	3	16	25	50	4
Sedgwick	29	25	43	50	50	3
Summit	10	6	18	50	25	3
Teller	17	14	17	50	50	5
Weld	240	200	300	65	33	1
Yuma	109	102	123	60	25	1½

Community interest.—Apparently all of the county superintendents reporting realize the importance of arousing the interest of their communities in the schools, yet actively organized work seems to be confined very largely to parent-teacher association. Nearly all the counties have some of these organizations in connection with their schools, and report them as being very helpful. One county superintendent receives help from the chamber of commerce. None report any help from the grange or farmers' organizations. The few consolidated schools which exist seem to be made the center of county-play festivals, teachers' meetings, and similar activities.

Two rural lyceum courses are reported in the State, both from consolidated districts.

Summary.—It is evident that real school supervision on the part of the county superintendent is impossible in Colorado under existing conditions. The lack of organization among districts, the uncertain tenure of the county superintendents, the size of the territory, and the number of teachers to supervise conspire to make real supervision impossible. If the county system recommended were adopted, it would be possible to employ superintendents of experience who were fitted and trained for the work of supervision and to pay salaries which would enable the boards to retain them as long as they proved efficient. In addition, assistant supervisors should be furnished in order that teachers might be given direct assistance in the organization of the school and in the regular classroom work.

(9) CONSOLIDATION.

It is not necessary to discuss here the desirability of consolidating country schools. School administration authorities recognize that the one-teacher school is inefficient and uneconomical, and they are using every effort to bring consolidation about wherever conditions are favorable. The movement is very rapid in many parts of the country, particularly in the States with township or county systems of management. States on the district basis, like Colorado, make little headway in this matter, except where special State aid is given. This is not to be recommended. Consolidation would be better promoted if a system of general administration favorable to it were adopted.

Colorado has made little progress in consolidation, although there are many locations where it is needed. This is indicated by the data given in tables 47 and 48. A large number of these small districts with small enrollment and attendance and with too low a valuation to support good schools are so located that consolidations are entirely practicable. There are in the State in all 20 consolidated schools located in 11 counties. Lack of a system favorable to the movement is the principal reason why the number is so small. Also there has been no serious campaign for consolidation except that carried on by the department of rural and industrial education of the State college of agriculture, assisted by a few local county superintendents and school officers immediately concerned.

TABLE 47.—*Districts with small enrollment and attendance and short terms.*

County.	School districts with census 6 to 21 years less than 15.	Districts with average daily attendance of—			Districts maintaining school—			
		Less than 5.	5, 6, or 7	8, 9, or 10	Less than 100 days.	100 to 110 days.	110 to 120 days.	120 to 140 days.
Adams	3	0	3	1	0	0	0	1
Alamosa	2	1	3	2	1	1	0	2
Arapahoe								
Archuleta	0	1	4	1	3	0	0	4
Baca								
Bent	0	0	1	2	0	0	1	5
Boulder	15	8	5	6	4	0	2	4
Chaffee	15	8	4	5	2	0	0	2
Cheyenne	0	0	0	0	0	0	0	0
Clear Creek	0	3	0	1	0	0	0	2
Conejos	5	2	2	1	3	0	1	11
Costilla	0	0	0	0	0	1	0	4
Crowley	0	0	0	0	1	0	0	0
Custer								
Delta								
Dolores	0	0	1	0	0	0	0	0
Douglas	15	11	6	5	2	0	0	5
Eagle	5	2	2	0	0	0	0	1
Elbert								
El Paso	13	8	7	9				
Fremont	10	4	3	3	1	1	0	4
Garfield	2	0	3	5	0	0	0	5
Gilpin	7	5	3	0	1	0	1	3
Grand	3	3	2	2	0	0	0	4
Gunnison	11	6	4	5	0	0	0	2
Hinsdale	2	1	0	1	0	0	0	1
Huerfano	1	1	2	5	2	5	0	8
Jackson								
Jefferson	14	8	6	7	0	0	1	8
Kiowa	0	0	0	0	0	0	0	6
Kit Carson	17	10	10	10	1	0	0	13
Lake	3	2	0	0	0	0	1	0
La Plata	3	0	2	2	1	0	1	0
Larimer	4	3	5	1	0	2	0	4
Las Animas	2	2	7	7	5	2	0	20
Lincoln	3	0	1	5	0	0	0	8
Logan	7	1	9	2	1	0	0	11
Mesa	1	0	0	4	0	0	0	0
Mineral	1	0	2	0	0	1	0	0
Moffat	3	2	4	3	1	0	1	3
Montezuma	3	0	2	3	0	0	0	5
Montrose	0	0	0	0	0	0	0	1
Morgan	0	0	0	0	0	0	0	1
Otero	0	0	0	2	0	0	0	0
Ouray	3	3	0	2	0	0	0	1
Park								
Phillips	6	1	4	3	0	0	0	4
Pitkin	4	2	1	3	1	0	0	0
Prowers	5	2	3	4	0	0	0	11
Pueblo	5	3	5	4	0	0	0	5
Rio Blanco	3	0	3	0	0	0	0	3
Rio Grande	5	2	4	2	0	0	0	2
Routt	2	0	2	7	1	0	1	5
Saguache	7	3	2	8	5	0	0	6
San Juan	0	0	0	0	0	0	0	0
San Miguel	0	0	1	1	0	0	1	1
Sedgwick	9	4	7	3	0	0	0	0
Summit	2	1	0	2	0	0	0	2
Teller	6	1	5	0	1	0	1	2
Washington								
Weld								
Yuma	6	0	5	14	0	0	0	22
State	233	114	145	153	37	13	12	212

TABLE 48.—*Districts with small valuation and number with low local levy.*

County.	Districts with valuation less than $20,000.	Districts with valuation between $20,000 and $40,000.	Districts with special local mill levy of—						
			Less than 1 mill.	1 mill but less than 2 mills.	10 to 12 mills.	12 to 14 mills.	14 to 15 mills.	15 to 16 mills.	16 mills plus.
Adams	0	0	4	10	0	0	0	0	0
Alamosa	0	0	0	2	0	0	0	0	0
Arapahoe									
Archuleta	0	1	0	5	0	0	0	0	0
Baca									
Bent	3	1	1	4	3	0	0	0	0
Boulder	1	0	0	11	5	0	0	0	0
Chaffee	0	0	1	5	0	0	0	0	0
Cheyenne	0	0	1	0	0	0	0	0	0
Clear Creek	1	0	0	0	0	0	0	0	0
Conejos	0	1	0	6	2	0	0	1	0
Costilla	0	0	1	0	0	0	0	0	0
Crowley	0	0	0	0	0	0	0	0	0
Custer									
Delta									
Dolores	0	0	2	1	0	0	0	0	0
Douglas	2	2	6	15	0	0	0	0	0
Eagle	1	2	0	4	1	2	0	0	0
Elbert									
El Paso	1	0	1	6	4	1	0	0	0
Fremont	0	2	1	3	0	0	0	0	1
Garfield	0	0	1	3	0	0	0	0	0
Gilpin	0	1	0	1	3	0	1	0	0
Grand	2	0	1	5	0	0	0	0	0
Gunnison	0	1	0	12	0	0	0	0	0
Hinsdale	0	2	0	0	2	0	0	0	0
Huerfano	0	1	2	6	2	0	0	0	0
Jackson									
Jefferson	0	1	3	10	0	0	0	0	0
Kiowa	0	0	0	0	1	0	0	0	0
Kit Carson	0	0	4	6	21	0	0	0	0
Lake									
La Plata	0	0	0	5	1	0	0	0	0
Larimer									
Las Animas	0	1	0	7	3	1	0	0	0
Lincoln	0	1	0	1	1	1	0	0	0
Logan	0	0	6	2	1	0	0	0	0
Mesa	0	0	0	1	0	0	0	0	0
Mineral	0	0	0	0	1	0	0	0	0
Moffat	0	0	2	1	0	1	0	0	0
Montezuma	1	2	0	1	3	1	0	1	1
Montrose	0	0	0	1	0	0	0	0	0
Morgan	1	0	0	0	1	0	0	0	0
Otero	0	0	2	2	0	0	0	0	0
Ouray	1	0	1	3	0	0	0	0	0
Park									
Phillips									
Pitkin	0	0	1	1	1	0	0	0	0
Prowers	0	3	6	12	2	0	0	2	2
Pueblo	0	0	0	7	0	0	0	0	0
Rio Blanco	0	0	0	1	1	0	0	0	0
Rio Grande	0	0	0	9	0	0	0	0	0
Routt	0	0	1	3	1	0	0	0	0
Saguache	0	0	1	9	0	0	0	0	0
San Juan	0	0	0	0	0	0	0	0	0
San Miguel	0	0	1	0	0	0	0	0	0
Sedgwick	0	1	0	2	0	0	0	0	0
Summit	0	1	0	0	0	0	0	0	0
Teller	2	0	0	1	2	1	0	0	0
Washington									
Weld									
Yuma	0	3	0	0	8	0	1	3	0
State	16	27	50	184	70	8	2	7	4

(10) STATUS OF CONSOLIDATION IN COLORADO.[1]

The first two consolidations took place in Mesa County in 1911. The first was at Loma, where three one-room schools were abandoned and replaced by a $14,000 eight-room, brick building with stone trimmings. The building has a good assembly room, five teachers are now employed, about 150 children are enrolled and two years of high-school work are offered.

The second consolidation was at Appleton, northwest of Grand Junction. The legality of this consolidation was tested in the courts and the case was carried through the Supreme Court. Consolidation was finally effected and a beautiful 10-room, stucco building was erected and dedicated in 1912. This school replaced a one-teacher, a two-teacher, and a three-teacher school. The new school has been a marked success from the beginning. It offers a full four-year high-school course, employs seven well-trained teachers and enrolls about 175 children. Thirty-five were enrolled in the high school last year. This school has made a record for attendance and the efficiency of the work in all departments. It has a well equipped manual training shop, a school orchestra, boys' and girls' clubs and in every way is a most excellent school.

The Fruitvale school is located 2 miles east of Grand Junction, and instead of having one large building has three less expensive ones arranged somewhat on the cottage plan. The school was also established in 1911 and is one of the most successful schools anywhere from the standpoint of its organization and the efficiency of its work. Nine thoroughly trained teachers are employed; the school is organized on the 6–6 plan, with the junior and senior high school. Two hundred children were enrolled last year, out of a census of 205. Sixty-one of these were enrolled in the high school. This is a very remarkable showing, when it is known that this school is less than 2½ miles from Grand Junction High School. This school has a well-equipped domestic science department, in charge of a graduate of the Colorado Agricultural College. Milk testing, seed testing, boys' and girls' clubs have been carried on successfully as a part of the school work. Four wagons transport 100 children to and from school. This school has a larger percentage of its enrolment in the high school, and last year had a higher daily attendance than any other high school in Colorado.

The Uncompahgre school is located in Montrose County, 10 miles from the city of Montrose. Three schools were consolidated here, and a $9,600 bungalow-style building, consisting of six rooms, was erected. Four teachers are employed, and the school is a branch of the Montrose County high school, two years of high-school work being offered.

The Avondale school is located in Pueblo County, 12 miles east of Pueblo. Three districts were consolidated here and three one-room schools abandoned in 1911. A substantial six-room building has been erected and some high-school work is offered.

Another consolidation school was formed adjoining this one, and it is also called the Avondale school, since it is located near the Avondale Station on the Missouri Pacific Railway. This consolidation took place in the early part of 1916, and a modern new building has just been completed and is being occupied for the first time this year. High-school work is also offered.

The Cache La Poudre school, located 6 miles from Fort Collins, was established in the fall of 1913. Here a $25,000 brick and stone building replaces five

---

[1] By C. G. Sargent, professor of rural and industrial education, State college of agriculture; prepared at the request of the Bureau of Education.

one-room schools and one two-room school. The new school is located on a beautiful 5-acre site, on which is a small orchard in bearing. Nine well-trained teachers are employed. Agriculture, manual training, and domestic science are taught by well-trained teachers; also music and drawing. The school building is modern in every respect and has pure mountain water from bubbling fountains on each floor. It has indoor toilets and all other modern equipment. It has 11 classrooms, a large assembly room, and furnishes 5 rooms in which the janitor and his wife live. The district also furnishes a comfortable teacherage, supplied with mountain water and bath. The school board has taken a three-year lease on a five-room house and 1½ acres of land adjoining the school property and subrents this to another one of the teachers, who is also a married man, so the district is really furnishing a home for the superintendent, for the principal of the grades, and for the janitor, and their families. Of the nine teachers, three are men and six are women. The superintendent and principal are employed on a two-year contract and are paid each month of the year. The superintendent draws a salary of $1,400 a year and his house rent and garden ground are furnished free. The school has made an enviable record for enrollment, attendance, and the high character of its work. Two hundred and twenty-five pupils are now enrolled, 53 of which are in the high school. Seven transportation wagons convey 160 children to and from school each day.

Fort Lupton.—Two country schools consolidated with the town school at Fort Lupton and a $23,000 building was erected. Eight teachers are employed and 360 pupils are enrolled, about 60 of whom are in the high school. Two transportation wagons are used to bring in the country children. This school has an excellent record for good work in all departments.

Kersey.—Three districts consolidated here in 1914. Five teachers are employed; some high-school work is offered; three wagons are used to transport the children, and the school has been a pronounced success.

Three schools united in Gill, also in Weld County, about 8 miles from Greeley. A new building was erected and school began in the new district September last.

Two districts consolidated at Gilchrist, Weld County. The organization has been completed, but the new building is not yet finished.

Three other districts in Weld County, just east of Longmont, consolidated in August and are now working out plans for a new building and will perfect their organization and have everything ready to start work in the school in 1917. At present the schools are being continued in the old buildings.

Parker, Douglas County.—Three one-room schools were consolidated here and were replaced by a good four-room brick building. High-school work is offered. Three wagons are used to transport the children and the school has been a marked success from the beginning.

Late in the summer of 1916 the Castle Rock district and an outlying country district were consolidated, and the children from the country district are transported to the Castle Rock school.

La Jara, Conejos County.—Three schools were consolidated in 1914—two one-teacher and one three-teacher schools. A $35,000 modern building, located on a 10-acre site, has replaced them. A full four-year high-school course is offered. Two hundred and seventy-five children are enrolled, 55 of whom are in the high school. Eight strong teachers are employed. Agriculture and domestic science are included in the course of study. This school has 15 classrooms, a beautiful assembly room, and has its own electric light and

water plant, supplying under pressure from an artesian well. It has indoor toilets and all other modern conveniences. The district owns two large auto-trucks, which bring the children from a distance of 11 miles. It also owns one transportation wagon. As a result of the success of this school, two other consolidations were effected in adjoining counties during the spring of 1916—one at Mosca, Alamosa County, where two districts united, the other situated 10 miles north of Monte Vista, in Rio Grande County. Three one-room schools were united here. The consolidation organization has been effected, but the building is not yet completed.

Dailey, Logan County.—Three and one-half districts were consolidated here, four one-room schools were abandoned and replaced by a $12,500 building. It is located on a 5-acre site. It has its own water and lighting system, a modern assembly room, and good equipment. School began in this new building September last. High-school work is offered, and the district owns three automobiles in which the children are transported. The district comprises what was once three and one-half districts, and is all included within one township.

Hygiene, Boulder County.—Two districts consolidated here. A new building is being erected on a 5-acre site, and will soon be ready for occupancy. High-school work is now offered.

Englewood.—Two second-class districts were consolidated here, making a first-class district, with nearly 1,100 children and 26 teachers. This consolidation took place in April, 1916. One superintendent now has charge of the schools. A good high school has been established, and a great improvement has been effected as a result of the consolidation.

All except three or four of these schools offer four years of high-school work, and it is the purpose of the others to do so as rapidly as they grade up to it. The Appleton, Fruitvale, Cache La Poudre, and Fort Lupton schools are accredited with the State university. Between 450 and 500 pupils were enrolled in these new consolidated high schools, and their success amply justifies a much wider extension of consolidation in many counties throughout the State.

(11) SUMMARY.

The conditions set forth in this section show the need of entire reorganization of the plan of administration and support for the rural schools of the State. A majority of the school buildings are insanitary as to lighting, heating, and ventilating. They are poorly equipped as to cloakrooms, workrooms, blackboards, supplementary reading material, etc. Satisfactory outhouses are not provided, and playgrounds suitable for games and play are found only at a few rural schools.

The teachers are selected with little regard to educational and professional qualifications and experience. The course of study is not adapted to the organization of the one-teacher school, and there is practically no supervision worthy of the name. Consolidation, the most necessary reform for efficiency and economy in the conduct of rural schools, has made little progress in the State. In only 12 of the 62 counties are there any consolidated schools.

These important matters would receive attention, and educational opportunities in the State might approximate equality regardless of the accident of location in city or country, if the State and county boards of education recommended were adopted. A State superintendent and county superintendents selected because of professional fitness for and experience in administrative and supervisory work would create the sentiment and furnish the leadership to substitute satisfactory conditions for whatever unsatisfactory ones now exist.